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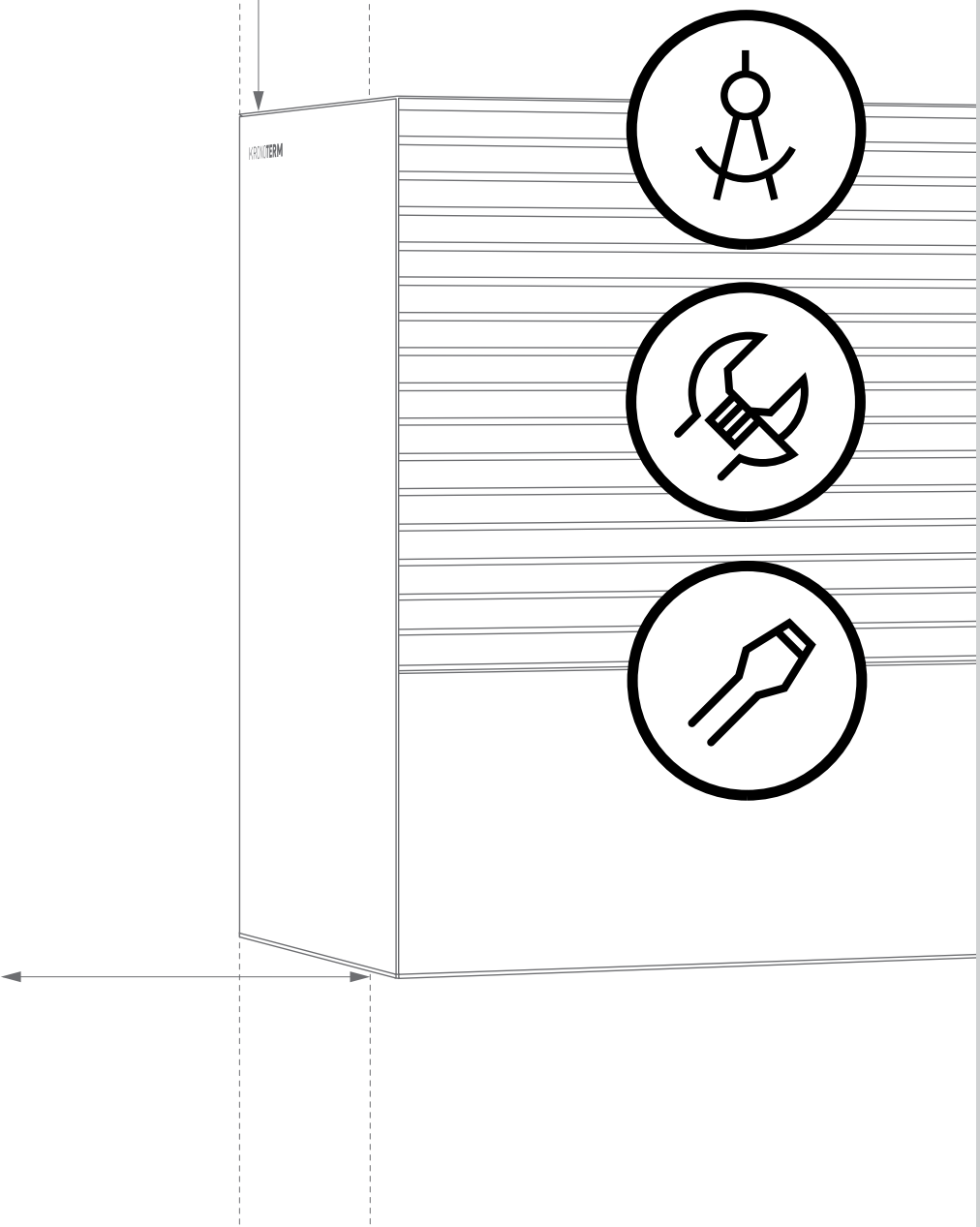
KRONOTERM 1976

HEAT PUMPS

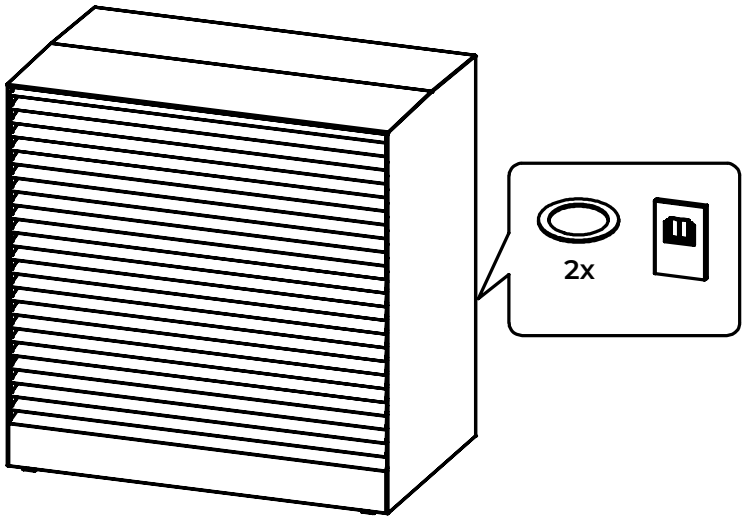


INSTRUCTIONS FOR SYSTEM DESIGN, INSTALLATION PREPARATION, INSTALLATION, AND MAINTENANCE

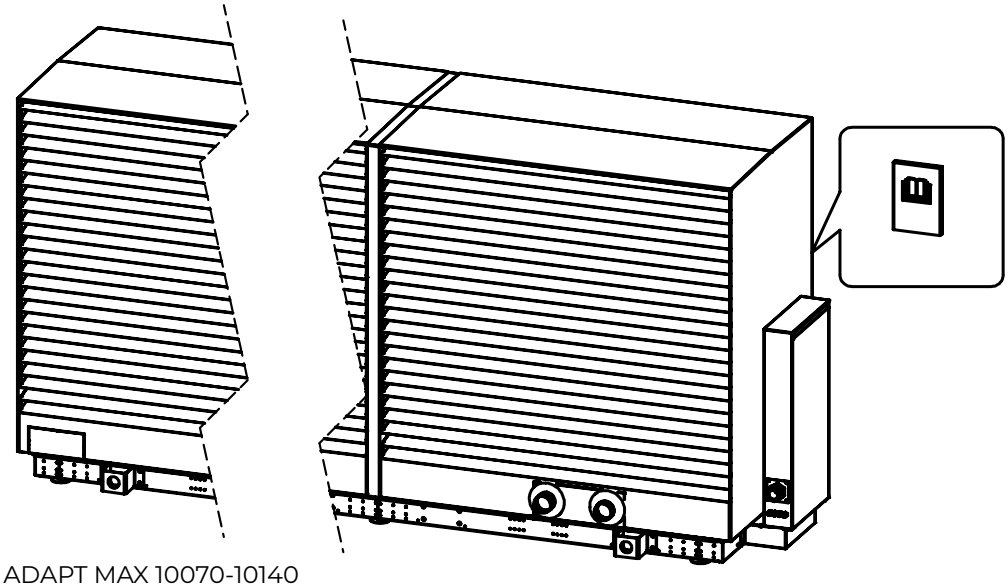
System designer, Installation Technician, User

ADAPT MAX

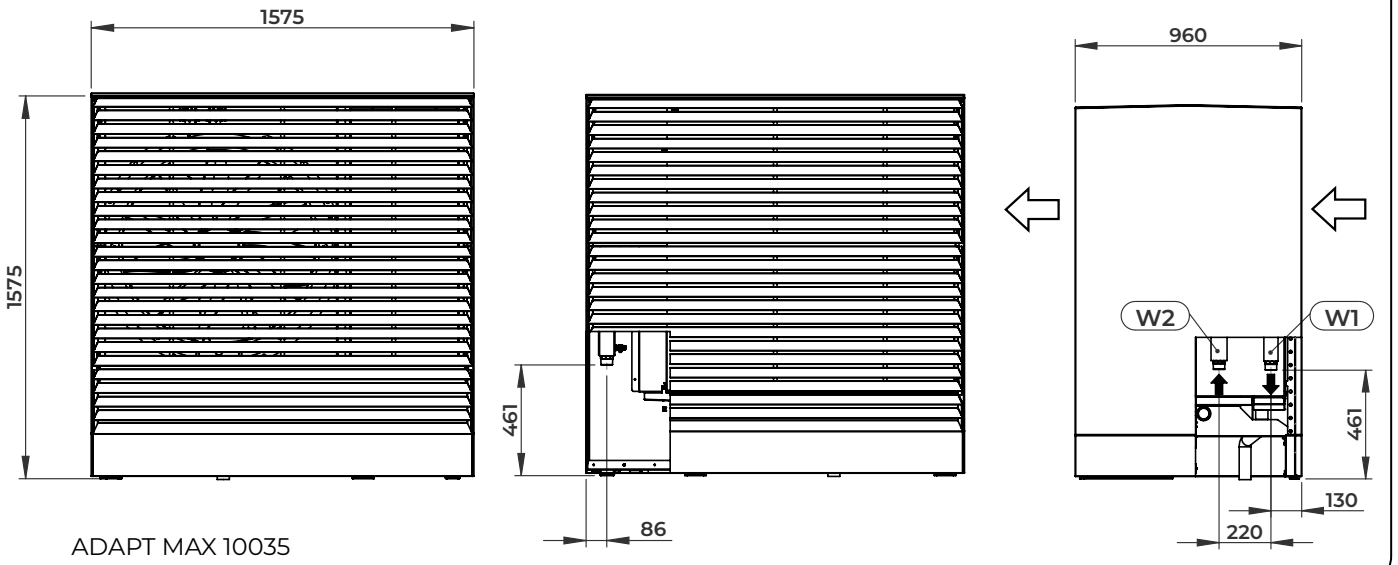
ADAPT MAX System



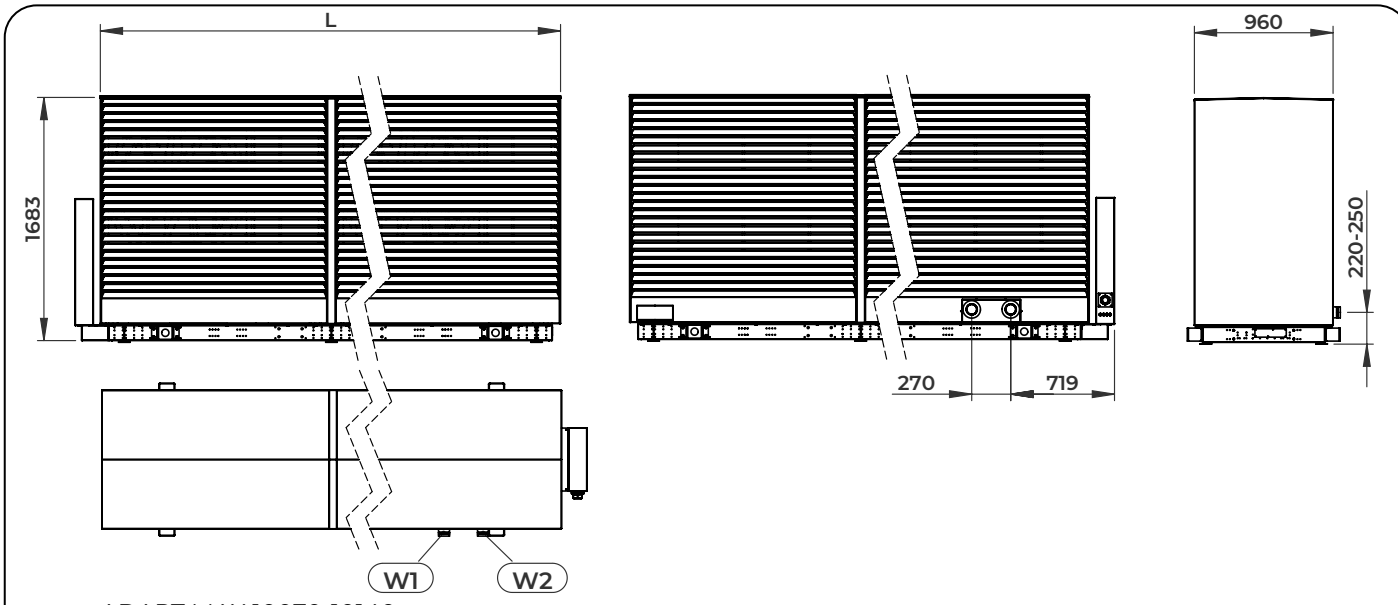
ADAPT MAX 10035



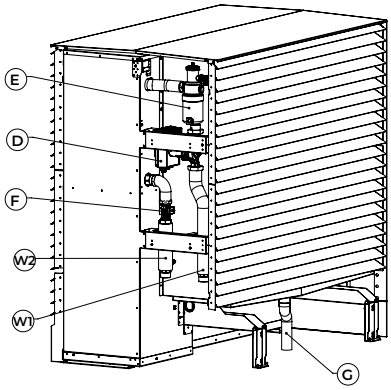
ADAPT MAX 10070-10140

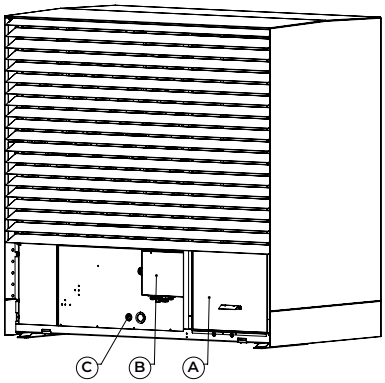


ADAPT MAX 10035

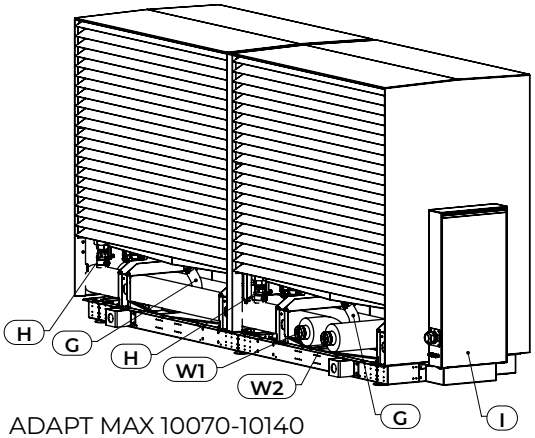


ADAPT MAX 10070-10140





ADAPT MAX 10070-10140



ADAPT MAX 10070-10140

A	Refrigerant system: · Compressor · Oil separator · Condenser · Electronic expansion valves · Compressor drive · 4-way valve · Filther drier · Pressure switch · High-pressure sensor · Low-pressure sensor · Temperature sensors · Compressor drive chokes
B	Electrical cabinet with the heat pump regulator, communication and power supply terminal blocks
C	Cable glands for electrical power supply cable and communication cable
D	Circulation pump
E	Gas separator with safety valve

F	Flow sensor
G	Condensate drain Φ50
H	Ball valve
I	Power supply and communication electrical cabinet
L	ADAPT MAX 10070 - 3375 mm ADAPT MAX 10105 - 5000 mm ADAPT MAX 10140 - 6625 mm
W1	OUTLET: R 6/4'' ET (ADAPT MAX 10035) / DN65 Victaulic (ADAPT MAX 10070-10140)
W2	INLET : R 6/4'' ET (ADAPT MAX 10035) / DN65 Victaulic (ADAPT MAX 10070-10140)
⬅	water flow direction
⇦	air flow direction

All linear dimensions in this document are provided in millimeters (mm), unless otherwise specified.

KRONOTERM INSTRUCTION SYSTEM

This document is a part of the KRONOTERM instruction system, which follows our products' lifecycle from design phase to service support.

The installation instructions serve as the foundation for the professional installation and implementation of the KRONOTERM heat pump system.

Instructions For System Design, Installation Preparation, Installation, and Maintenance – ADAPT MAX - EN / 17-24-34-220102-02 | 03 2025

Despite taking extensive care to ensure the accuracy of all figures and de-scriptions, KRONOTERM d.o.o. reserves the right to make corrections, changes to technical details, and changes to figures with no prior notice. Dimensions are given in mm. Information herein is given based on the latest available product information at the time of drafting and printing this document. We also reserve the right to suspend the sales of an individual product or even the entire sales program.

All updates are available in digital format. Please contact your chosen system administrator for access.

Figures are symbolic and are only intended as a reference. Despite our efforts we cannot ensure that the products' true colors, proportions, or other graphical elements will be faithfully represented in print and on electronic screens. Products may differ from their visual representations.

Printed in Slovenia.

The original documentation is written in Slovenian. All other languages are translations.

Write to **info@kronoterm.com** for any additional questions.

KRONOTERM 1976
HEAT PUMPS

EN

TABLE OF CONTENTS

1 IMPORTANT INFORMATION

WELCOME TO THE KRONOTERM FAMILY!

These instructions support the planning of a heat pump system, provide important information for installation preparation, describe the heat pump installation and filling process, and offer tips for maintaining the heat pump and its system.

Only properly qualified individuals are permitted to plan, prepare for installation, install, or maintain KRONOTERM devices.

Before installation, read the instructions carefully, as this will familiarise you with the purpose, functionality and handling of the device.

1.1. SYMBOLS

In the instructions, symbols highlight important information to limit risks.

This symbol indicates various risks for the user or the device:
DANGER: Risk that can lead to serious bodily injury.
WARNING: Risk that can lead to minor bodily injury.
CAUTION: Risk that can lead to device damage or malfunction.

The symbols indicate information:

NOTE: Notification that provides important information about the device and the manufacturer's requirements.

INSTRUCTIONS FOR USE: Read the attached manual before use.

REFRIGERANT: The device contains the A3 flammable refrigerant.

FURTHER INFORMATION: You can scan the QR code with your smartphone.

Instructions for a professionally trained person (installer, service technician...)

Instructions, intended for the user.

1.2. GENERAL WARNINGS

Heed the recommendations and requirements in these instructions to ensure the appliance's proper operation. Improper handling of the device may result in damage to the device, injury to the user or property.

NOTE

Choose your heat pump's output capacity based on the building's projected heat loss.

Read these instructions before starting work and installation. More detailed information is available following the links marked with a QR code.

The warranty is voided if the device is prepared and installed differently from the manner prescribed herein.

Heed required clearances during installation.

Any modification or replacement of the original components of the device excludes the manufacturer's guarantee for safe and functional operation.

The manufacturer is not responsible for any claim for compensation in the event of device or other damage resulting from not adhering to the instructions herein.

Required clearances and dimensions of the heat pump are specified at the start of the manual.

Dimensions of the heat pump are specified at the start of the document.

In the further part of the manual, the following is described or specified: required clearances, the installation of the device; the dimensions of the power supply and communication cables; the connection of the power supply cable, other cable connections, and fuses; and the temperature range for water and air.

The refrigerant system of the device is hermetically sealed.

Ensure regular maintenance of the device by an authorised service technician.

Keep these instructions in a dry place in the device's vicinity.

After the preparation and installation phase these instructions must be given to the end user.

If the product is ever given to a third party, these instructions must also be given to said third party.

1.3. SAFETY WARNINGS AND INSTRUCTIONS

⚠ DANGER

Do not clean or tamper with the device while it is in operation.

The device's power cable and the other parts of the heating system must be connected by a qualified electrician.

Electrical installation must be conducted by a qualified expert.

Disconnect the device from the electrical supply while connecting the elements of the heating system.

Failure to follow the instructions and good practice when electrical connection of the device may result in serious injury or death.

Inspect the building's electrical wiring in accordance with valid legislation on the requirements of low voltage wiring.

Do not puncture or burn the device.

The device contains the flammable refrigerant R290 (C_3H_8) and is intended for outdoor installation only.

The refrigerant R290 is heavier than air and odorless.

Only persons who are trained in handling flammable refrigerants and authorized by the manufacturer are allowed to access the refrigerant system of the device.

In case of refrigerant leakage, a flammable or explosive atmosphere can be formed in the immediate vicinity of the device. Follow the following rules:

Install the device in such a way that in case of leakage, there is no stagnation of refrigerant in the surroundings or intrusion of refrigerant into the building.

There should be no sources of ignition in the vicinity of the device, such as open flames, hot surfaces, sparking electrical devices, battery powered devices (such as mobile phones, etc.).

Only use tools that meet the requirements for working with flammable refrigerants in Safety Group A3 in Zone 2.

Use antistatic equipment and clothing. Before touching the device, touch other grounded parts to discharge yourself of any static electicity.

It is prohibited to remove, disable, bridge or block the security mechanisms and systems of the device.

Any modification of the device is prohibited.

⚠ CAUTION

Service and maintenance of the device can only be performed by an authorised service technician.

In case there are issues with the device's operation, contact the installer who installed your device.

Do not place other objects on or next to the device.

Do not tilt the device more than 45° in any direction.

The device must be connected to a power source of appropriate quality (SIST EN 50160).

The actual power supply must not fluctuate more than ± 10% of the rated voltage. You can get information on power supply from your electricity service provider.

Connect the device to the electrical network via the safety device built into the electrical installation.

The device must be connected in accordance with national regulations on electrical installations.

Use a safety device that separates all contacts under overvoltage category III conditions - minimum contact spacing of 3 mm.

Excessive pressure in the heating system can cause water to leak from the safety valve. Ensure that the safety valve's drainage pipe is clear and installed in a place that will never freeze.

Install discharge valves on the pipes next to the heat pump in order to allow the water in the device to be emptied in case of the risk of freezing (extended power outage).

The manufacturer guarantees the operation of the device if the intended additional equipment KRONOTERM is installed in the heating system. In case of using additional equipment from other manufacturers, the manufacturer is not responsible for any malfunctions of the device or system.

Do not use any substances to accelerate the defrosting or cleaning, except those prescribed by the manufacturer.

Uncontrolled disconnection of the heat pump's power supply may cause operational disturbances and shorten the lifespan of certain components.

⚠ WARNING:

Disconnect the device from the power supply before maintenance or servicing.

Do not play with the device.

The device may only be used independently by trained individuals who are familiar with safe operation and understand the possible dangers of operating the device.

Children are not allowed to clean or maintain the unit without supervision.

Prevent access to the device by children and persons who are not trained for operating the device.

Ensure that the device's operation does not pose a risk to anyone.

The device can be used by children aged 8 years and older and persons with reduced physical, sensory or mental abilities or with a lack of experience or knowledge, if they are supervised or instructed in the safe use of the device and if they understand the possible dangers.

All installations must be conducted by a professionally qualified person and in accordance with the applicable national regulations.

Electrical installation must be conducted in accordance with current national regulations on electrical installation and in accordance with the manufacturer's instructions.

1.4. TRANSPORT AND STORAGE

⚠ CAUTION

For the transportation of the heat pump, use transport equipment that is qualified for the weight of the device.

Do not place objects with a total weight of more than 10 kg on the device during transport.

Do not overload the front, back, and side panels.

Transport and store the device in a dry place at a temperature of 4 to 45°C (50°C for 24 h).

Keep the device in a place without any source of ignition, such as: open flames, working gas stoves, electrical heaters, switches, etc. Make sure the device is not close to windows, shafts, doors or other spatial features that could cause refrigerant stagnation.

We recommend using support ropes with a minimum lenght of 6 meters to ensure lifting stability.

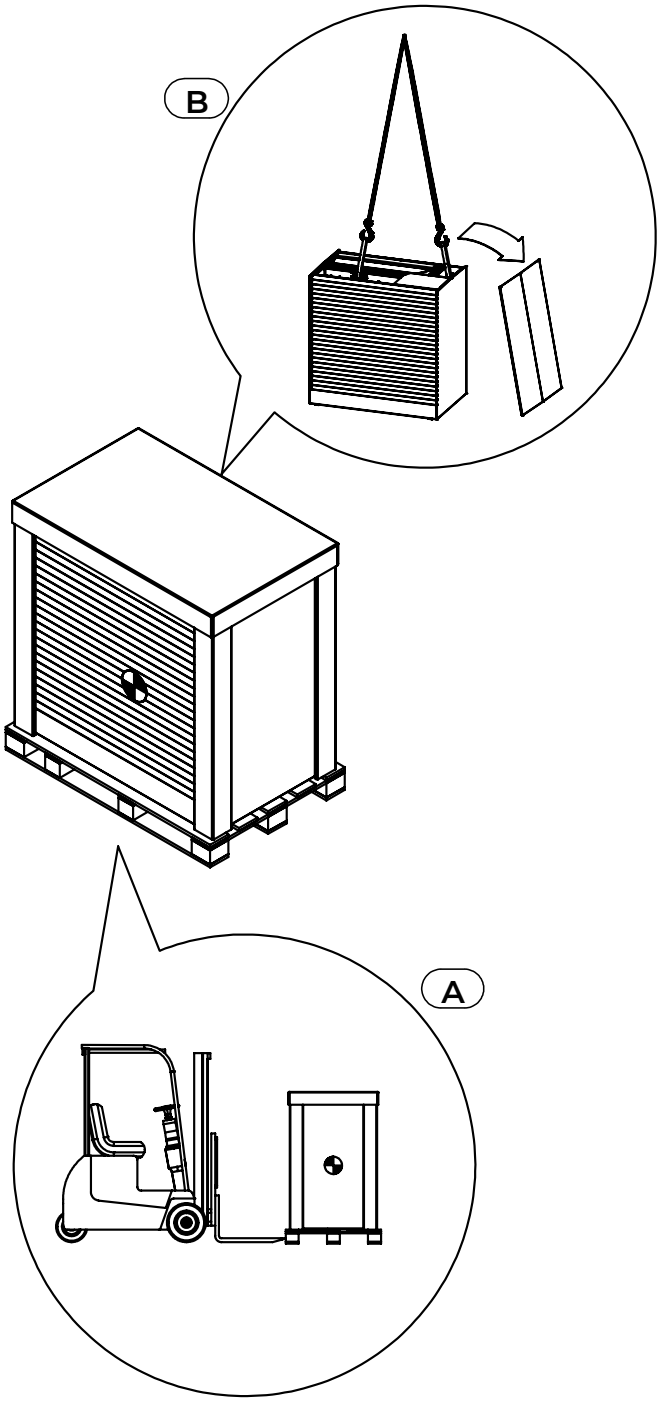


Figure 1: Transport of ADAPT MAX 10035

A	ADAPT MAX is delivered on a pallet. Use a forklift or a pallet truck for transportation.
B	Use the transport straps that are under the cover of the heat pump for the placement at the final location. Use a crane or other lifting device.

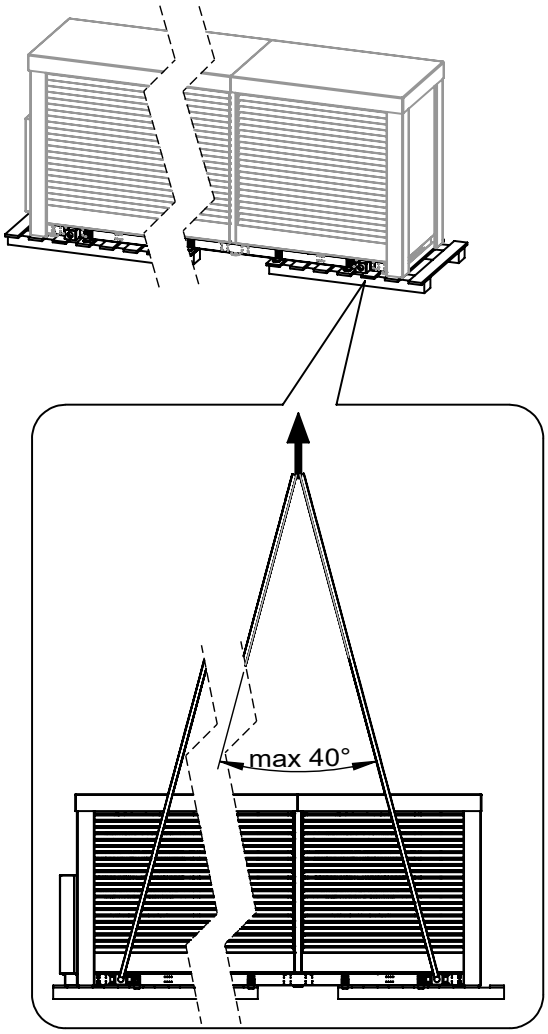


Figure 2: Transport ADAPT MAX 10070-10140

Heat pumps ADAPT MAX 10070, ADAPT MAX 10105, ADAPT MAX 10140 are delivered on a pallet.

Use a crane or other lifiting devices for the placement at the final location. Please refer to the requirements shown in Figure 2.

⚠ CAUTION

Transport straps must not be exposed to moisture or direct sunlight.

Maximum usage duration is 5 years. After this period, replace the transport straps with new ones.

1.5. HANDLING THE PACKAGING AND END OF LIFE DEVICE

Dispose of the packaging in compliance with applicable regulations.

Dispose of the device in accordance with applicable legislation on waste electrical and electronic equipment.

SYSTEM DESIGN

2 INSTALLATION PLANNING

NOTE

Choose the necessary heating and cooling capacity of the heat pump based on the project's thermal needs.

2.1. HEAT PUMP CONNECTION DIAGRAM

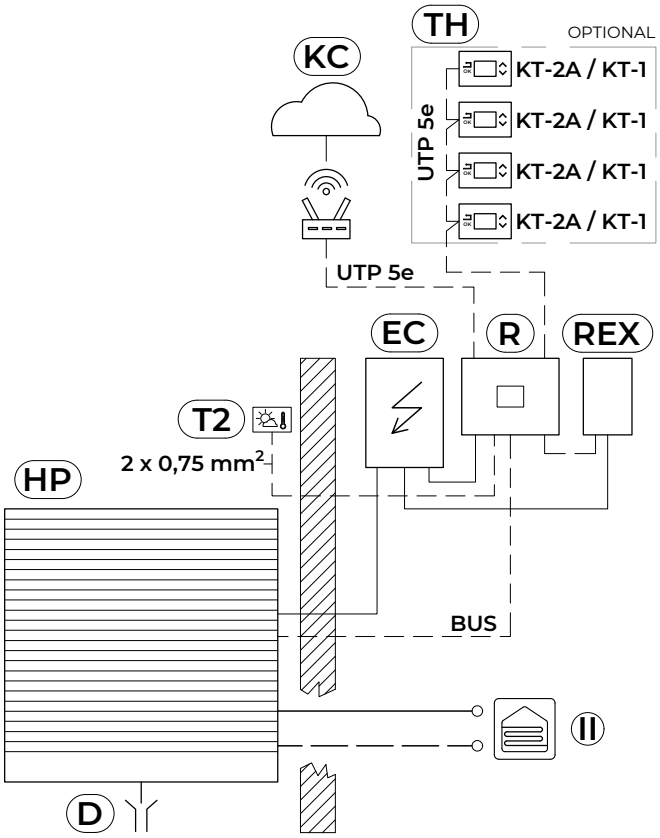


Figure 3: Connection diagram ADAPT MAX 10035

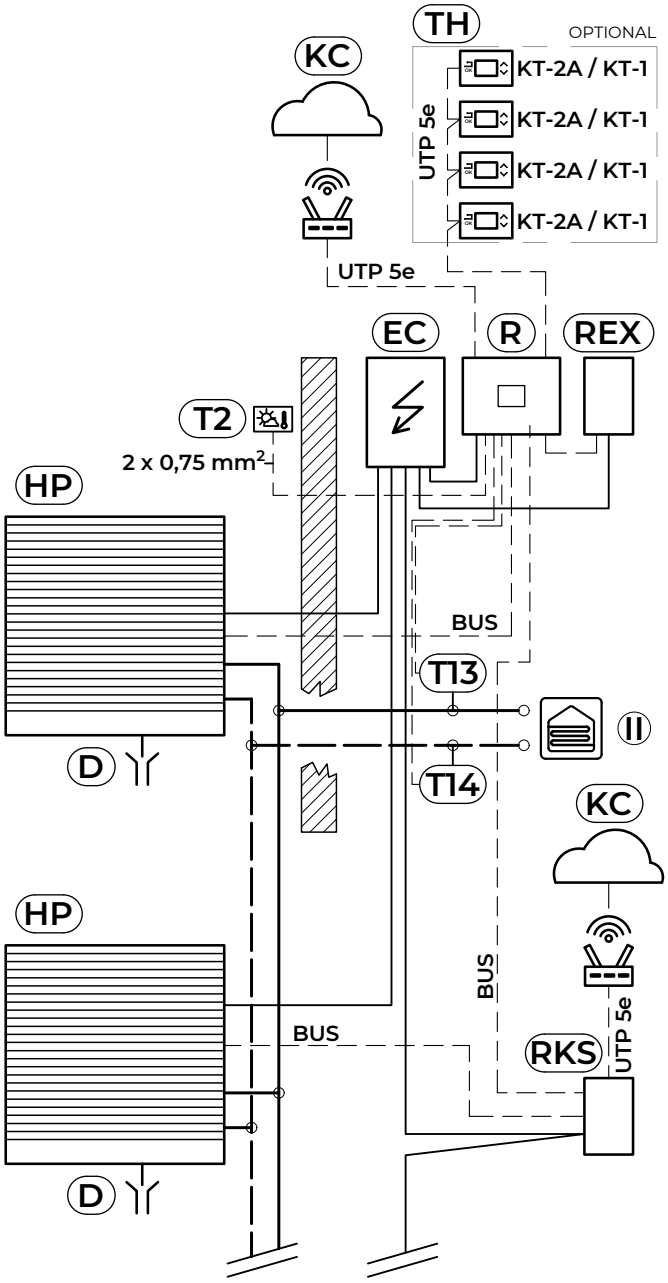


Figure 4: Connection diagram ADAPT MAX 10035 in cascade

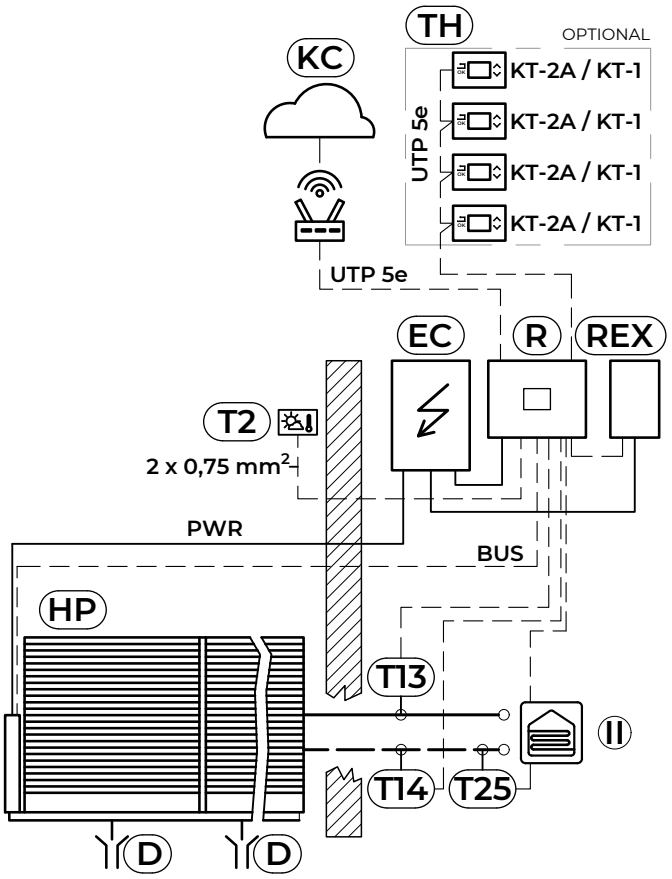


Figure 5: Connection diagram ADAPT MAX 10070 - ADAPT MAX 10140

BUS	Communication cable - FTP 5e or LIYCY
D	Condensate drain
EC	Electrical distribution cabinet
HP	ADAPT MAX
KC	CLOUD.KRONOTERM
PWR	Power Supply Cable
RKS	WR KSM C
R	WR KSM 2
REX	WR KSM+
T2	Outdoor temperature sensor
T13	Temperature sensor - flow
T14	Temperature sensor - return
TH	KT-2A (up to 4 x)
II	Heating system

2.2. CONNECTION DIAGRAM IN THE UTILITY ROOM

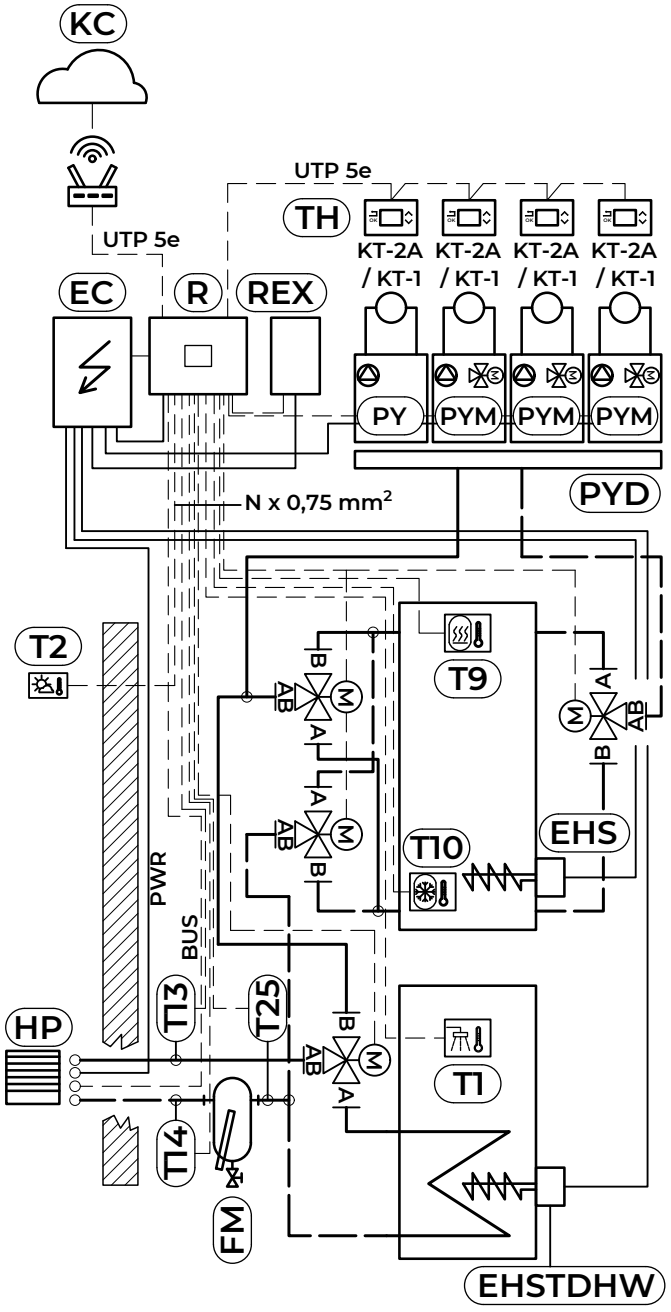


Figure 6: Utility Room Connection Diagram for ADAPT MAX

BUS	Communication cable
EC	Electrical distribution cabinet
EHSTDHW	Electric heater for DHW tank
EHS	Electric immersion heater
FM	Magnetic dirt separator
HP	ADAPT MAX
KC	CLOUD.KRONOTERM
M	Mixing valve
PY	Heating loop set – direct
PYD	Hydraulic distributor

PYM	Heating loop set – mixed
PWR	Power Supply Cable
R	WR KSM 2
REX	WR KSM+
T1	Temperature – DHW tank
T2	Outdoor temperature sensor
T9	Temperature sensor - buffer tank heating
T10	Temperature sensor - buffer tank cooling
T13	Temperature sensor - flow
T14	Temperature sensor - return
T25	Heating system pressure sensor
TH	KT-2A (up to 4 x)

2.3. GLYCOL HEAT EXCHANGER

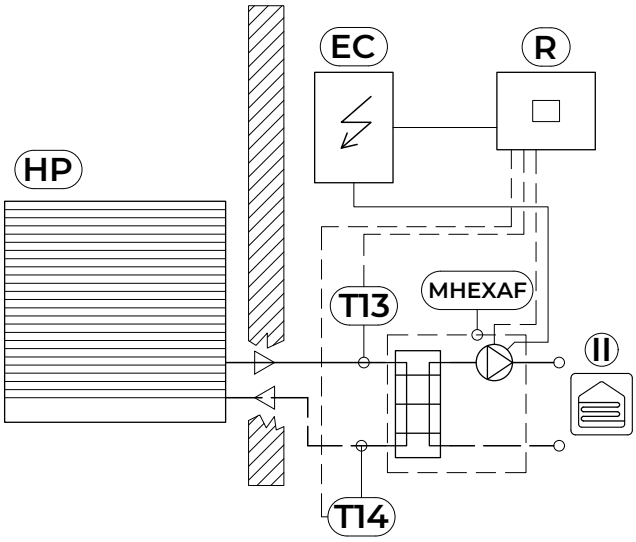


Figure 7: Connection diagram - Glycol heat exchanger

EC	Electrical distribution cabinet
HP	ADAPT MAX
MHEXAF	Set heat exchanger for antifreeze medium
R	WR KSM 2
T13	Temperature sensor - flow
T14	Temperature sensor - return
II	Heating system

2.4. LOCATION REQUIREMENTS FOR THE HEAT PUMP

NOTE

Ensure that the floor of the selected location has a sufficient load-bearing capacity for the weight of the device, including the weight of the filled liquids.

Ensure that the room will always be accessible with manual transport devices for installation, maintenance and servicing purposes.

Costs related to the rental of special equipment for installation, servicing and maintenance are not covered by the warranty.

CAUTION

The heat pump must be protected against direct and indirect lightning strikes or other power surges.

2.4.1. WIND FACTORS

NOTE

Position the heat pump with regard to the common wind direction in the area, so that the wind does not obstruct the airflow generated by the fan in the heat pump.

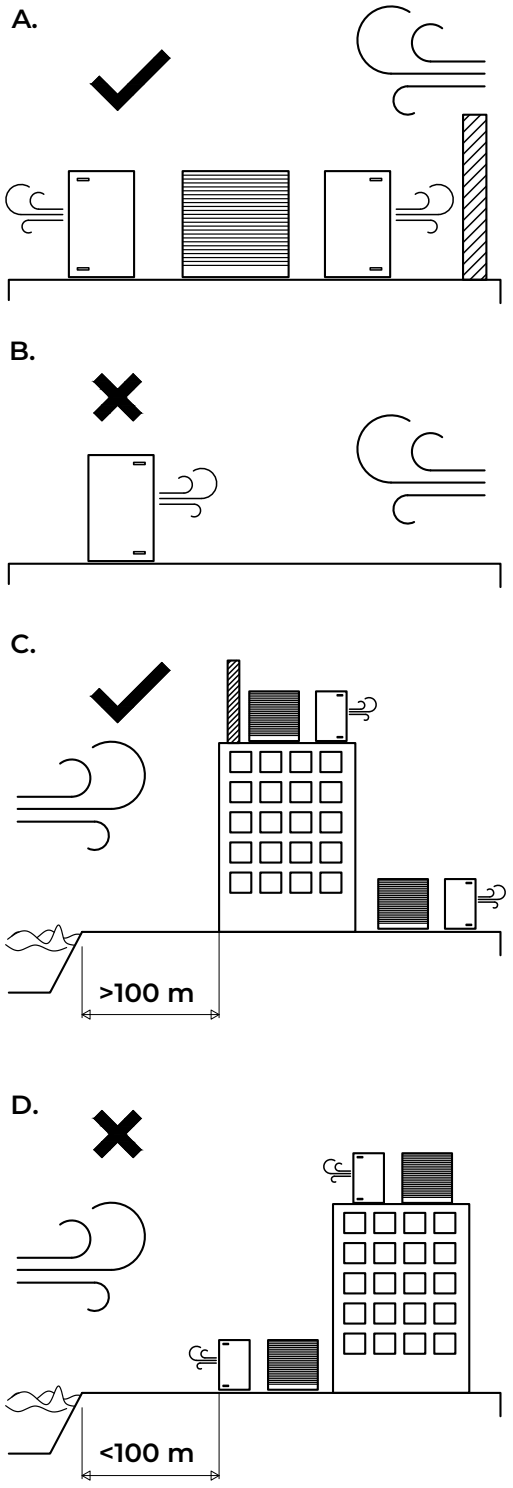


Figure 8: The impact of wind on heat pump placement

A	Proper floor placement
B	Improper floor placement
C	Proper placement on the roof and by the sea
D	Improper placement on the roof and by the sea

2.4.2. HEAT PUMP NOISE EMISSION BASED ON PLACEMENT

NOTE

The heat pump emits noise during operation. Im-proper placement can amplify noise.

Consider the following recomendations when placing the heat pump.

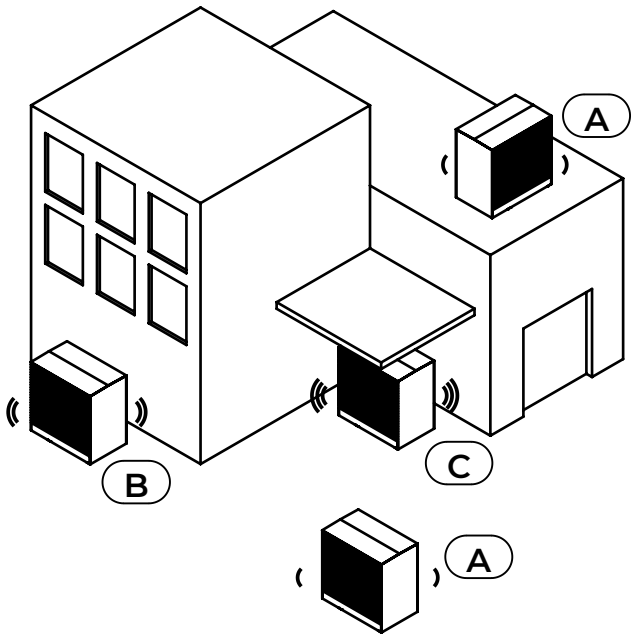


Figure 9: The impact of heat pump placement on noise emission

A	Placement in the open	The lowest noise level
B	Placement next to a wall	Medium noise level
C	Corner placement under a ceiling	Highest noise level

2.4.3. FUNCTIONAL CLEARANCES FROM OBSTACLES

CAUTION

Move the heat pump away from the building/obstacle to ensure proper airflow and allow unobstructed service access. Heed required clearances.

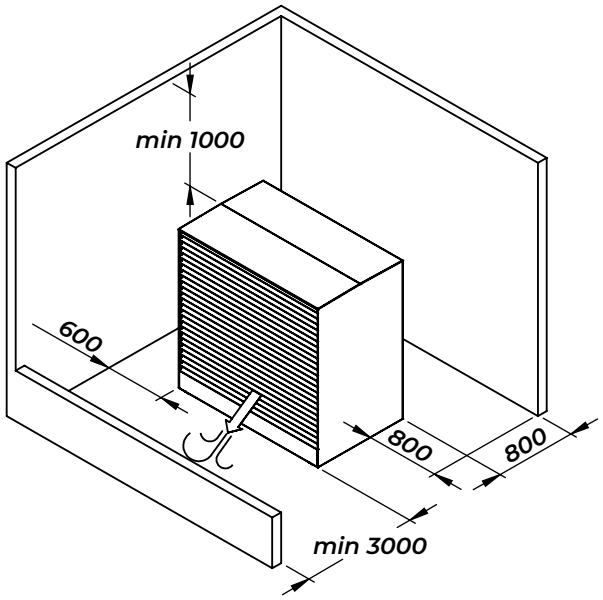


Figure 10: ADAPT MAX 10035 minimal functional clearances

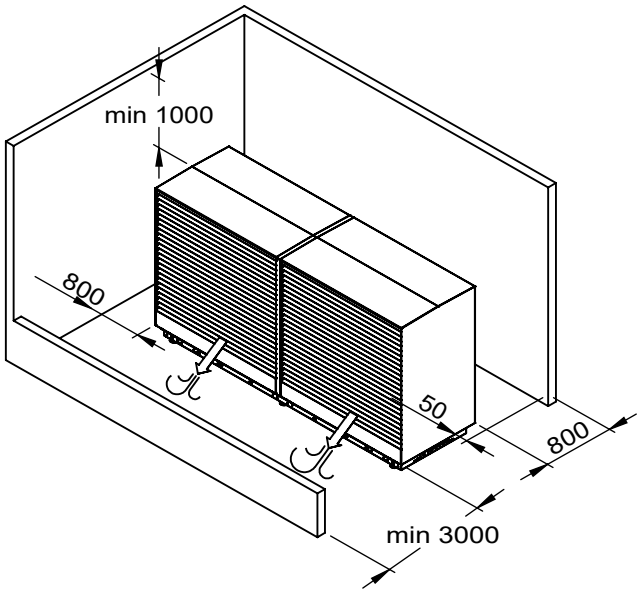


Figure 11: ADAPT MAX 10070 minimal functional clearances

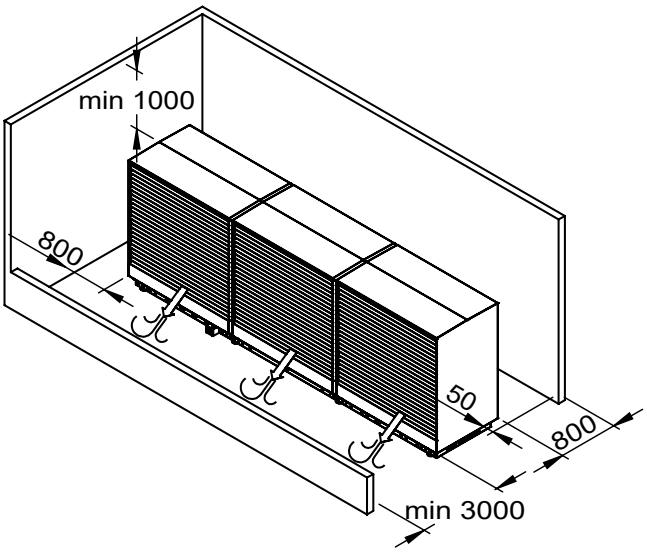


Figure 12: ADAPT MAX 10105 minimal functional clearances

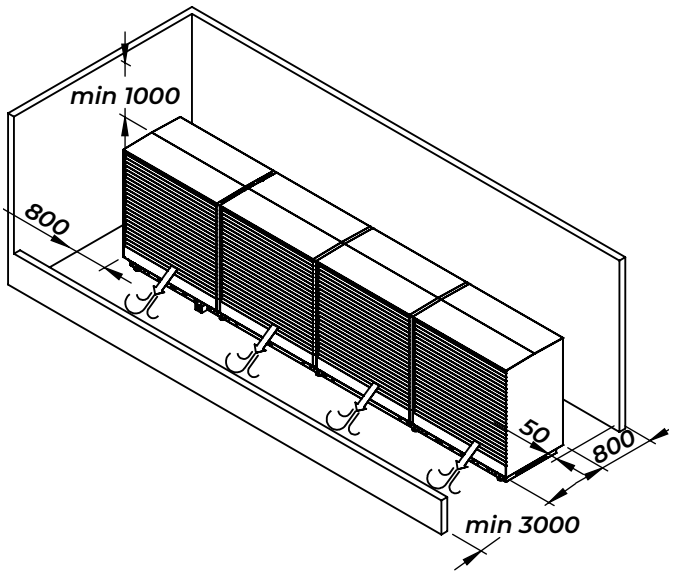


Figure 13: ADAPT MAX 10140 minimal functional clearances

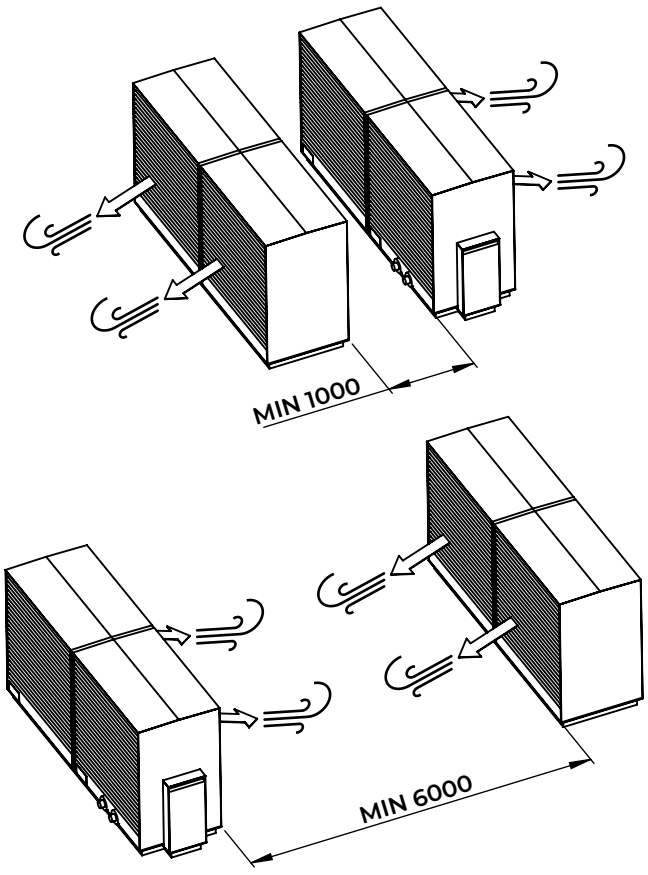


Figure 14: ADAPT MAX minimal functional clearances for multiple units

2.4.4. SAFETY CLEARANCES

DANGER

ADAPT MAX contains the R290 flammable refrigerant, which is heavier than air.

Safety clearances encompass a space around the heat pump where no spatial features such as windows, shafts, holes, doors and other that could trap the refrigerant are allowed.

Remove all potential sources of ignition such as open flames, electric heaters, switches, battery operated tools, hot surfaces etc. from the safety clearance space.

Not complying with the above requirements could in case of refrigerant leakage lead to an explosion and/or fire.

WHEN PLACING, PLEASE CONSIDER THE FOLLOWING REQUIREMENTS.

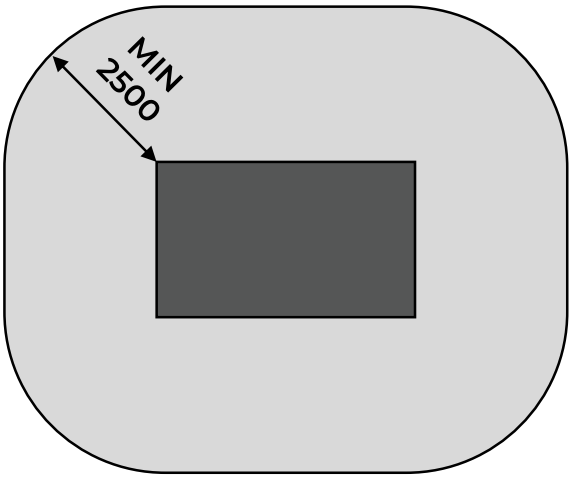
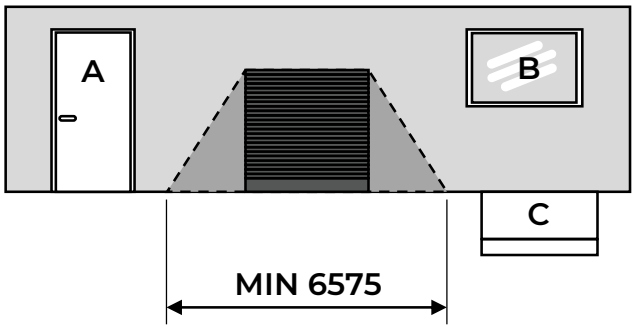


Figure 15: ADAPT MAX 10035 safety clearances, placement in the open



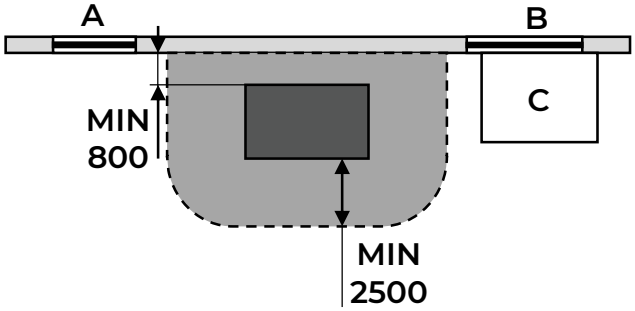


Figure 16: ADAPT MAX 10035 safety clearances, wall placement

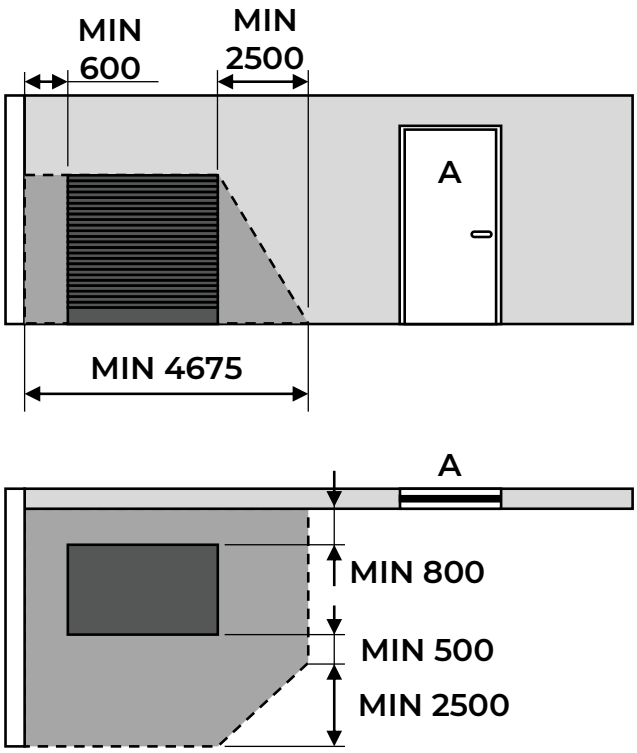


Figure 17: ADAPT MAX 10035 safety clearances, corner placement

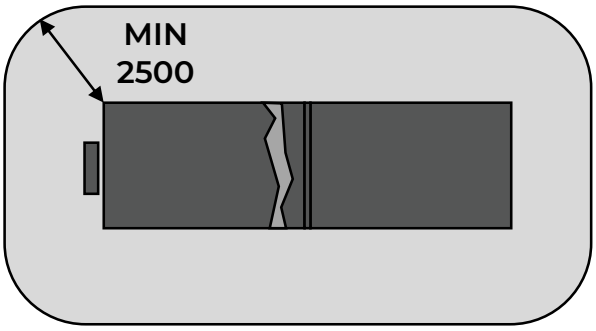


Figure 18: ADAPT MAX 10070-10140 safety clearances, rooftop or placement in the open.

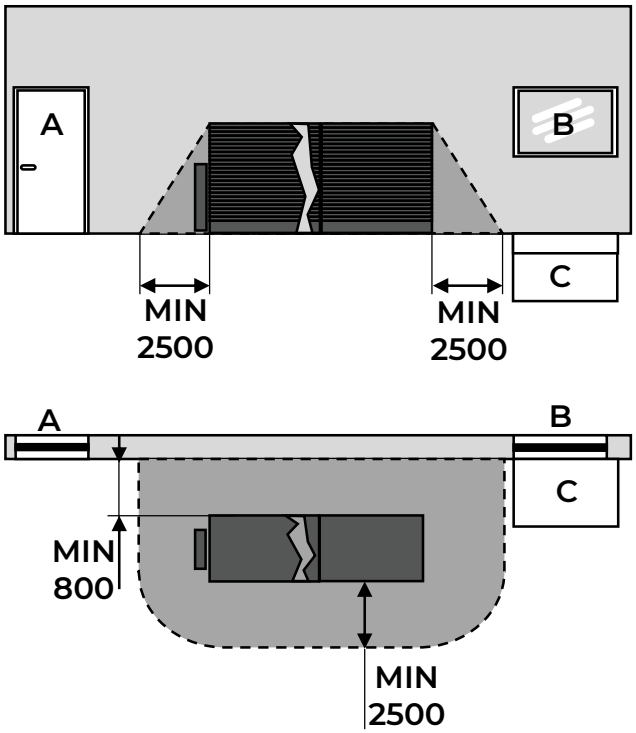


Figure 19: ADAPT MAX 10070-10140 safety clearances, wall placement.

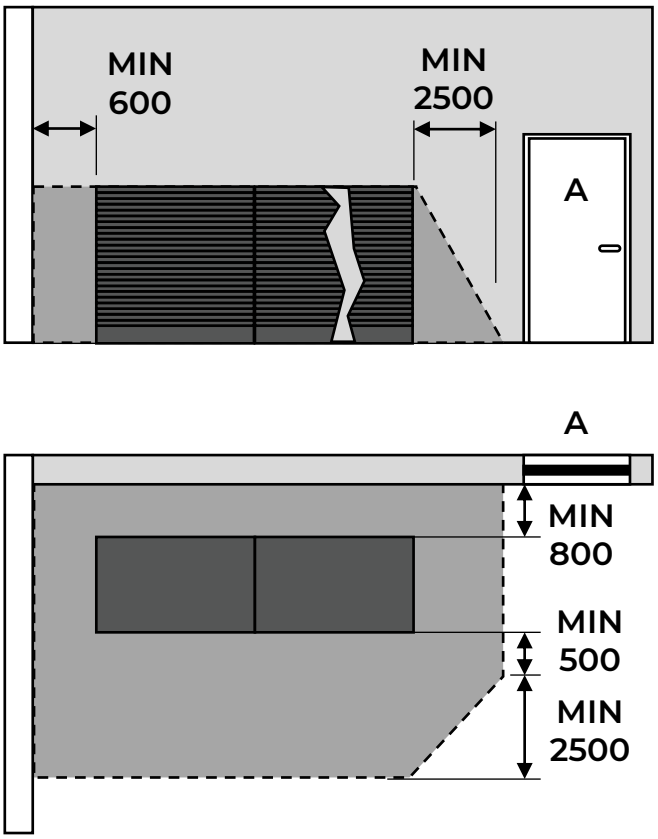


Figure 20: ADAPT MAX 10070-10140 safety clearances, corner placement

A	Door
B	Window
C	Shaft

2.5. REQUIREMENTS FOR INSTALLATION OF WALL CONTROL UNIT

CAUTION

Heed required clearances during installation.

NOTE

The room must be dry, humidity in the room must not exceed 60 %.

The temperature range in the room can be from 5 °C to 35 °C.

2.5.1. WR KSM 2

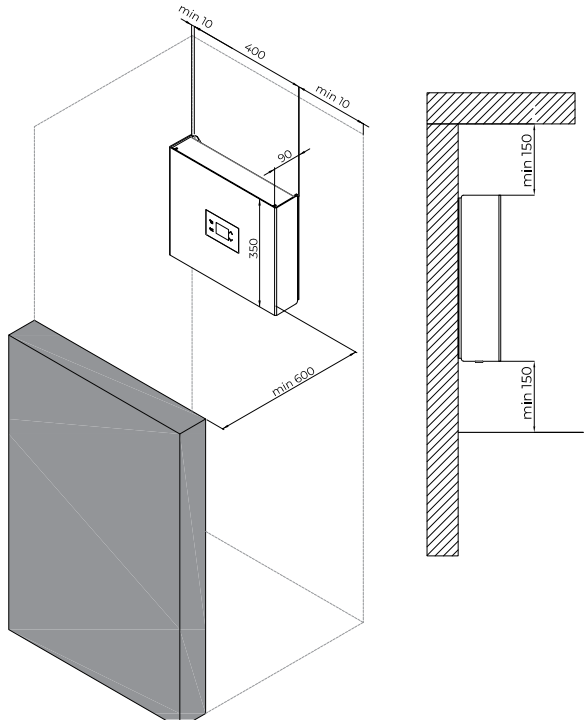


Figure 21: Minimum clearances WR KSM 2

2.5.2. WR KSM C AND WR KSM+

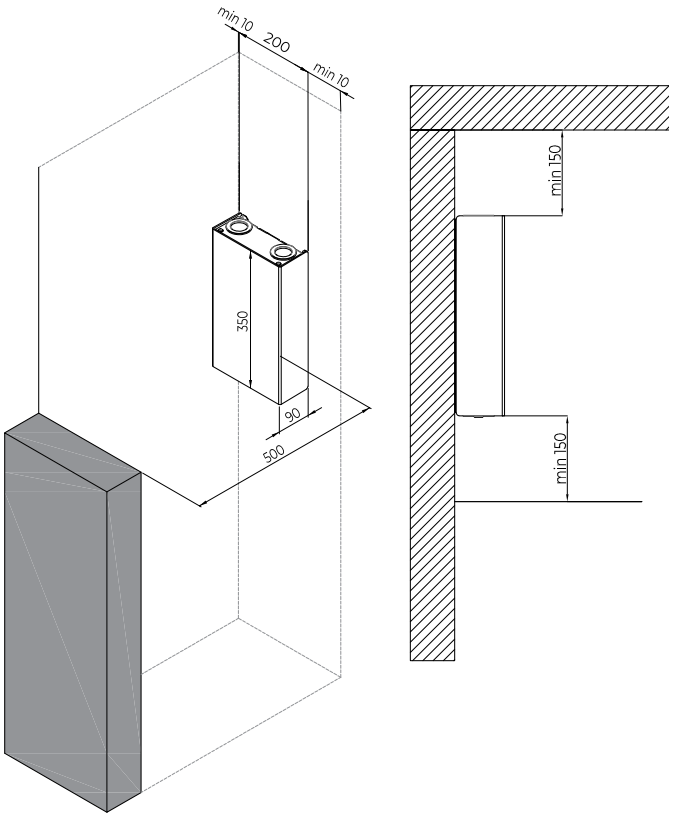


Figure 22: Minimum clearances WR KSM C and WR KSM+

2.5.3. WR KSM MAX 10070-10140

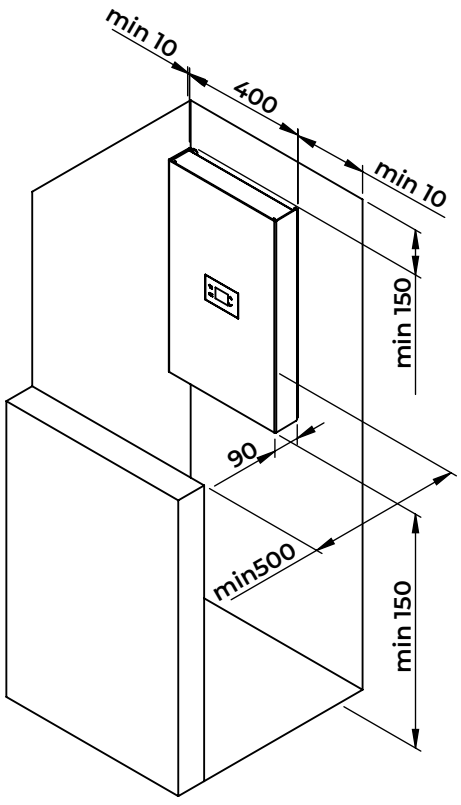


Figure 23: Minimum clearances WR KSM MAX 10070-10140

FURTHER INFORMATION

Installation manual WR KSM 2, WR KSM+, WR KSM C and WR KSM MAX

2.6. REQUIREMENTS FOR PIPE CONNECTIONS

NOTE

For hydraulic connection of the heat pump to the heating system, use pipes of appropriate dimensions. The pipes must be suitable for heating and cooling.

Table 1: Information for connecting pipes

	Minimum nominal diameter	Minimum inner diameter of the pipe [mm]	Rated flow [m3/h]	Available pressure drop [kPa]
ADAPT MAX 10035	DN40	Ø40	6	52,7
ADAPT MAX 10070	DN50	Ø51	12	50,8
ADAPT MAX 10105	DN65	Ø63,7	18	48,6
ADAPT MAX 10140	DN80	Ø72,1	24	46,7

2.6.1. UNDERGROUND PIPE CONNECTION

The underground pipe connection must be made with flexible preinsulated pipes suitable for heating and cooling.

Table 2: Information for underground pipe connection

	Recommended preinsulated pipe	Heat losses [W/(mK)]
ADAPT MAX 10035	2x SINGLE Ø50x4,6/140 VIP	0,115
	TWIN 2xØ50x4,6+2x32x3,5/200	0,376
ADAPT MAX 10070	2x SINGLE Ø63x5,8/140 VIP	0,138
	2x SINGLE Ø63x5,8/175	0,226
ADAPT MAX 10105	2xSINGLEØ90x8,2/175 VIP	0,166
	2x SINGLE Ø90x8,2/200	0,279
ADAPT MAX 10140	2x SINGLEØ110X10/175 VIP	0,209
	2x SINGLE Ø110X10/200	0,443

CAUTION

After the completion of the pipe connection, penetrations through foundations, walls, and roofs must be sealed watertight.

2.6.2. ABOVE-GROUND PIPE CONNECTION

You can make an above ground pipe connection using different pipes.

Table 3: Dimensions of above-ground pipe connection

	Steel	Copper	Carbon steel	Stainless steel
ADAPT MAX 10035	Ø48,3x2,9	Ø42x1	Ø42x1,5	Ø42x1,5
ADAPT MAX 10070	Ø60,3x3,6	Ø54x1,5	Ø54x1,5	Ø54x1,5
ADAPT MAX 10105	Ø76,1x3,6	Ø76,1x2	Ø76,1x2	Ø76,1x2
ADAPT MAX 10140	Ø88,9x3,2	Ø88,9x2	Ø88,9x2	Ø88,9x2

CAUTION

For aboveground pipe connections, it is necessary to insulate the pipes in accordance with applicable technical guidelines.

The insulation must be weather and UV resistant and protected from mechanical damage with a pipe jacket.

In case of cooling, steel pipes and carbon steel pipes must be additionally protected against corrosion with anticorosion paint or similar.

Table 4: Thickness of pipe insulation [mm]

ADAPT MAX 10035	40 mm
ADAPT MAX 10070	50 mm
ADAPT MAX 10105	65 mm
ADAPT MAX 10140	65 mm

2.7. REQUIREMENTS FOR UTILITY ROOM

NOTE

The temperature range in the room can be from 5 °C to 35 °C.

The room must be dry, humidity in the room must not exceed 60 %.

Ensure that the foundation for the equipment is flat, solid, durable, and of sufficient load-bearing capacity for the equipment, including the weight of filled liquids.

Insulate pipes and pipe connections in walls and ceilings with anti-vibration and vapour-barrier thermal insulation of adequate thickness to prevent corrosion and condensate accumulation.

Ensure that the room will always be accessible with manual transport devices for installation, maintenance and servicing purposes.

Costs related to the rental of special equipment for installation, servicing and maintenance are not covered by the warranty.

A floor drain trap must be installed in the utility room.

2.7.1. REQUIREMENTS FOR INSTALLED MATERIALS

CAUTION

Connect elements of the heating system such that you prevent the formation of galvanic cells. When connecting various materials, use fitings made of red brass with a lenght of at least twice the inner diameter.

DO NOT use zinccoated elements (pipes, fittings, etc.) in the heating system along with anti-freezing agents.

Ensure proper grounding of the heating system.

2.7.2. BUFFER TANK REQUIREMENTS

CAUTION

ADAPT MAX needs to be combined with a buffer tank suitable for heating and cooling (insulated with vapor barrier insulation).

Table 5: Recommended volume of the buffer tank and connections sizes

	Recommended volume of the buffer tank [l]	Minimum size of connections on the buffer tank
ADAPT MAX 10035	500	DN50 (2'')
ADAPT MAX 10070	500	DN50 (2'')
ADAPT MAX 10105	1000	DN65 (2 ½'')
ADAPT MAX 10140	1000	DN80 (3'')

NOTE

For recommended buffer tanks, see the DATA SHEET.

FURTHER INFORMATION

DATA SHEET

2.7.3. DHW TANK REQUIREMENTS

NOTE

Size the DHW tank according to the project requirements.

Take into consideration minimal requirements specified in the following table.

For recommended DHW tanks, see the DATA SHEET.

FURTHER INFORMATION

DATA SHEET

Table 6: DHW tank requirements

	Minimum heat exchanger surface area [m²]	Min. Kvs
ADAPT MAX 10035	4	9
ADAPT MAX 10070	8	12
ADAPT MAX 10105	Custom project	/
ADAPT MAX 10140	Custom project	/

2.7.4. REQUIRED SAFETY ELEMENTS

CAUTION

The following elements must be installed in the utility room:

Magnetic dirt separator of appropriate size - AVAILABLE AS ADDITIONAL EQUIPMENT.

The heating system safety valve of the appropriate size must be determined by the system designer.

The heating system expansion tank of the appropriate size must be determined by the system designer.

If the installation of a DHW tank is planned, the following must be installed:

If installed, the safety valve of the DHW tank must be determined by the system designer.

Expansion vessel or expansion group of the DHW tank must be determined by the system designer.

NOTE

For recommended magnetic dirt separators, see the DATA SHEET.

FURTHER INFORMATION

DATA SHEET

3 PREPARATION OF THE FOUNDATION AND PIPE CONNECTIONS

ADAPT MAX can be installed in multiple ways, depending on the needs of each project.

Table 7: Possible pipe connection ADAPT MAX

ADAPT MAX 10035	Underground pipe connection.	
	Underground pipe connection with anti-freeze valves (optional).	
	Above ground pipe connection with anti-freeze valves (optional).	
ADAPT MAX 10070-10140	Underground pipe connection with anti-freeze valves (optional).	
	Above ground pipe connection with anti-freeze valves (optional).	

CAUTION

The graphics of foundations in these instructions are for informational purposes only. When planning and preparing the installation, be sure to refer to the foundations plans.

NOTE

The foundation is not included in the scope of delivery.

NOTE

For hydraulic connection of the heat pump to the heating system, use pipes of appropriate dimensions. The pipes must be suitable for heating and cooling.

3.1. CONCRETE FOUNDATION - ADAPT MAX 10035

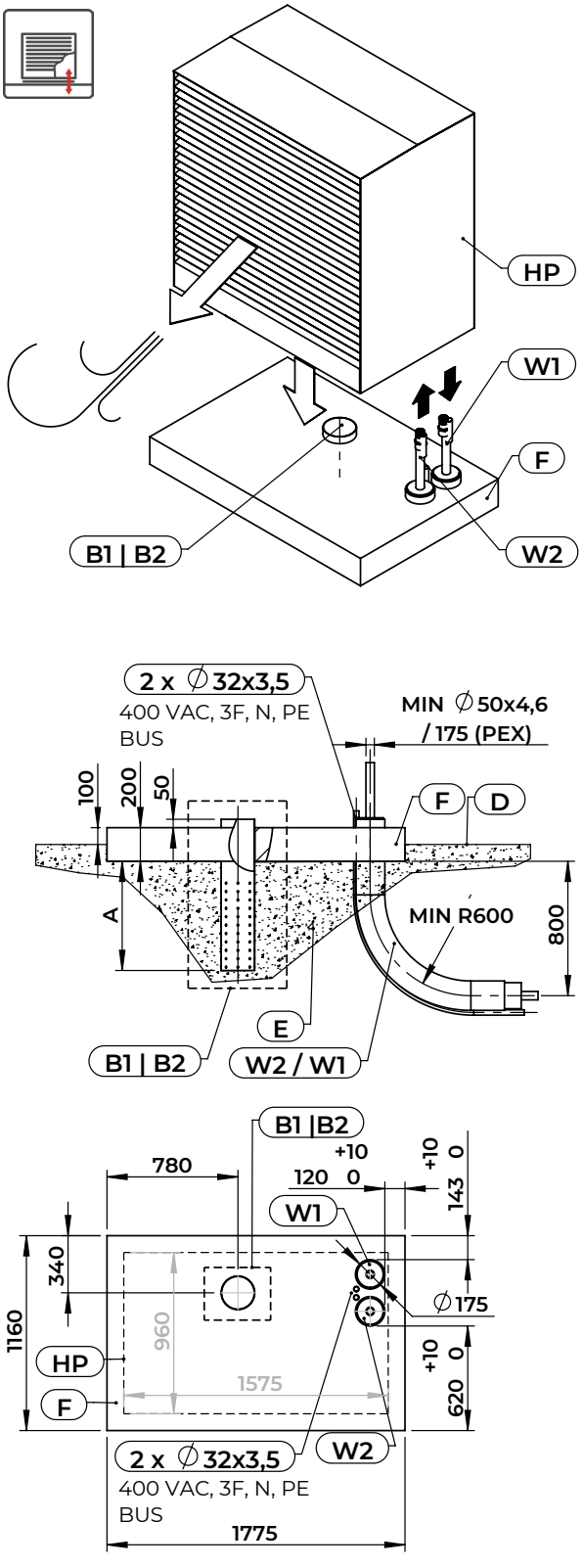


Figure 24: ADAPT MAX 10035 foundation – Underground pipe connection

FURTHER INFORMATION

FOUNDATION PLAN FOR ADAPT MAX TPZ AM 10035

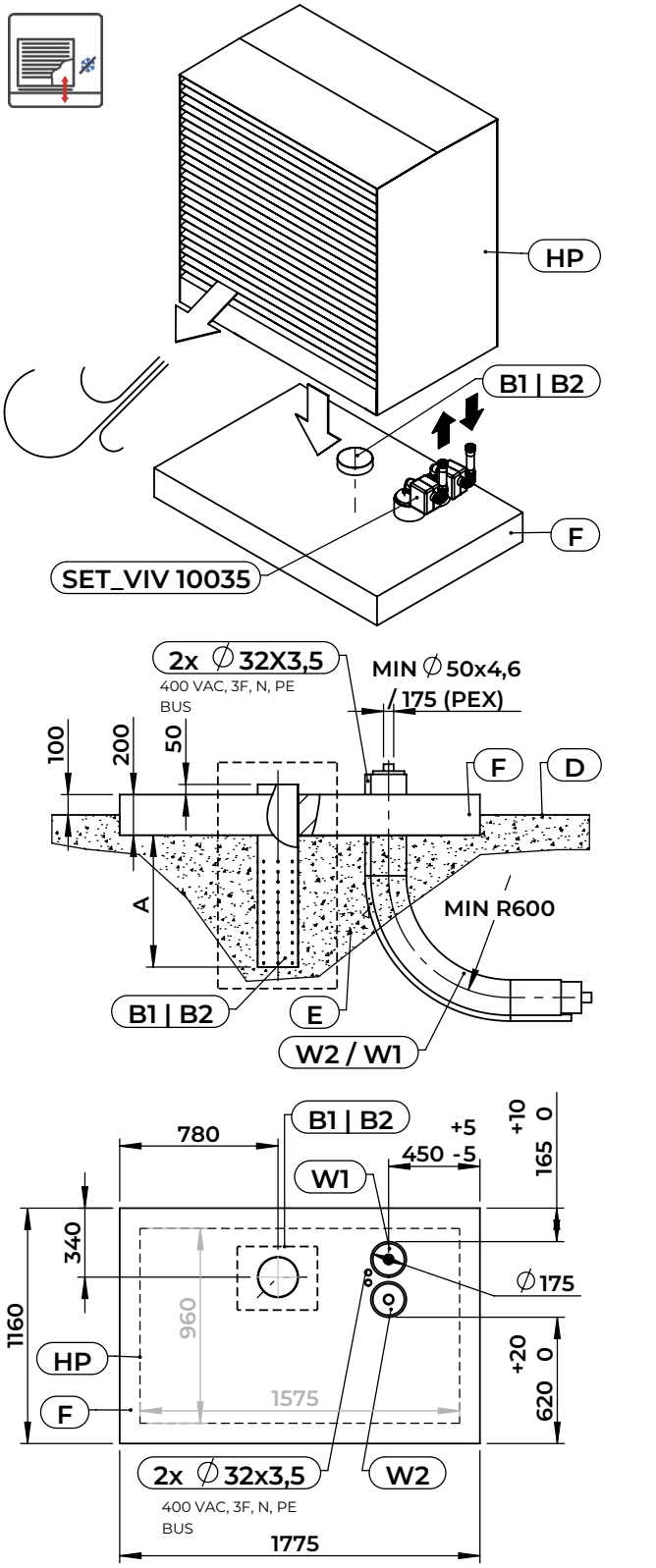
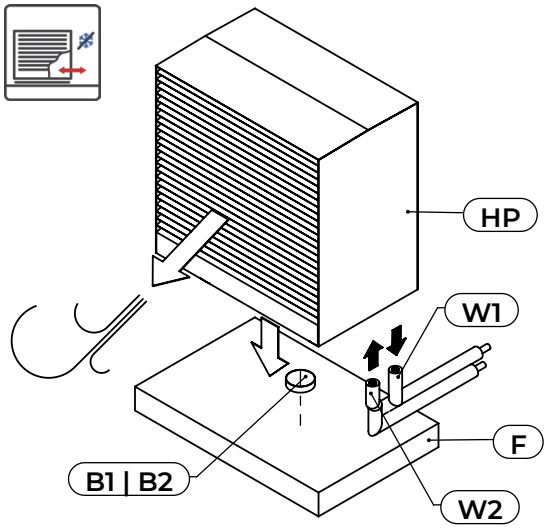
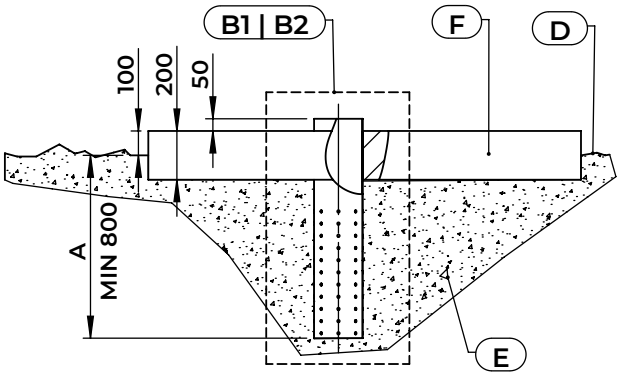


Figure 25: ADAPT MAX 10035 foundation – Underground pipe connection, installation with anti-freeze valves

FURTHER INFORMATION

FOUNDATION PLAN FOR ADAPT MAX TPZ-AF AM 10035





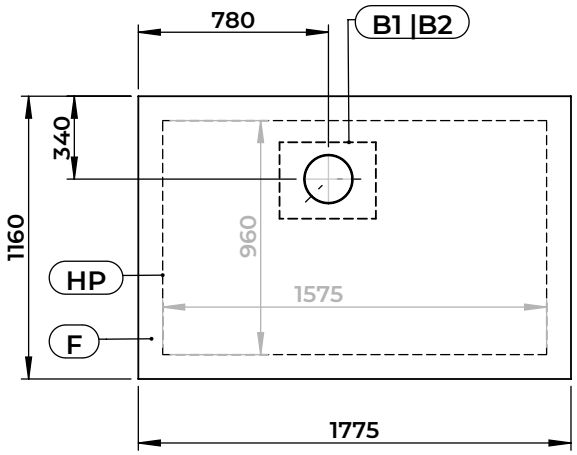


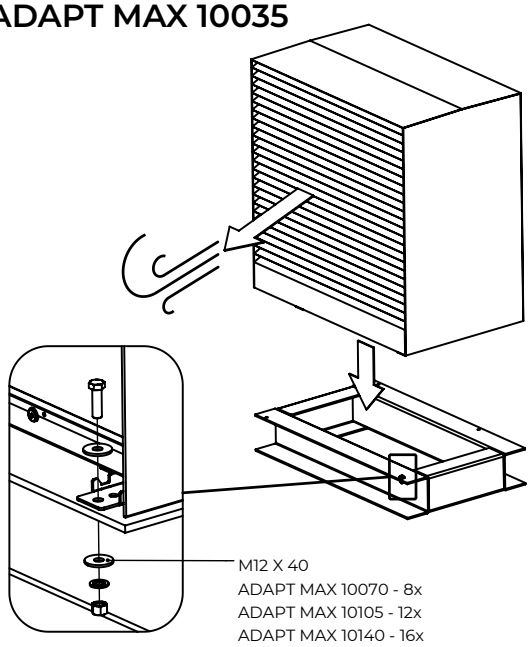
Figure 26: ADAPT MAX 10035 foundation - aboveground pipe connection

FURTHER INFORMATION

FOUNDATION PLAN FOR ADAPT MAX TNZ(AF) AM 10035

A	Frost depth
B1	Perforated drain pipe
B2	Drain outflow pipe
C	Conduits for power and communication cables.
D	Floor level
E	Compacted ground - water-permeable
F	Reinforced concrete foundation
HP	heat pump
W1	Outlet
W2	Inlet

3.2. STRUCTURAL STEEL FOUNDATION - ADAPT MAX 10035



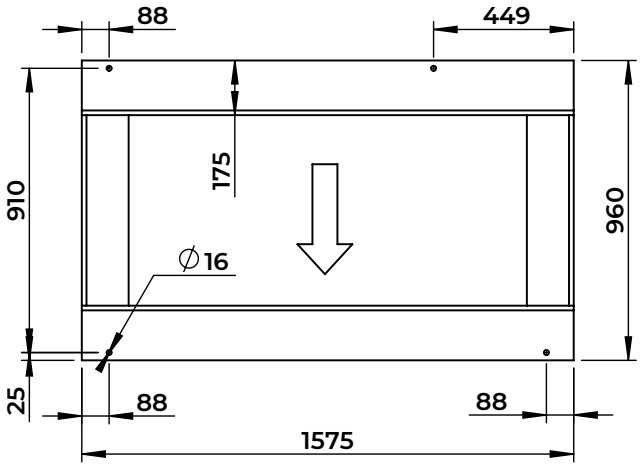
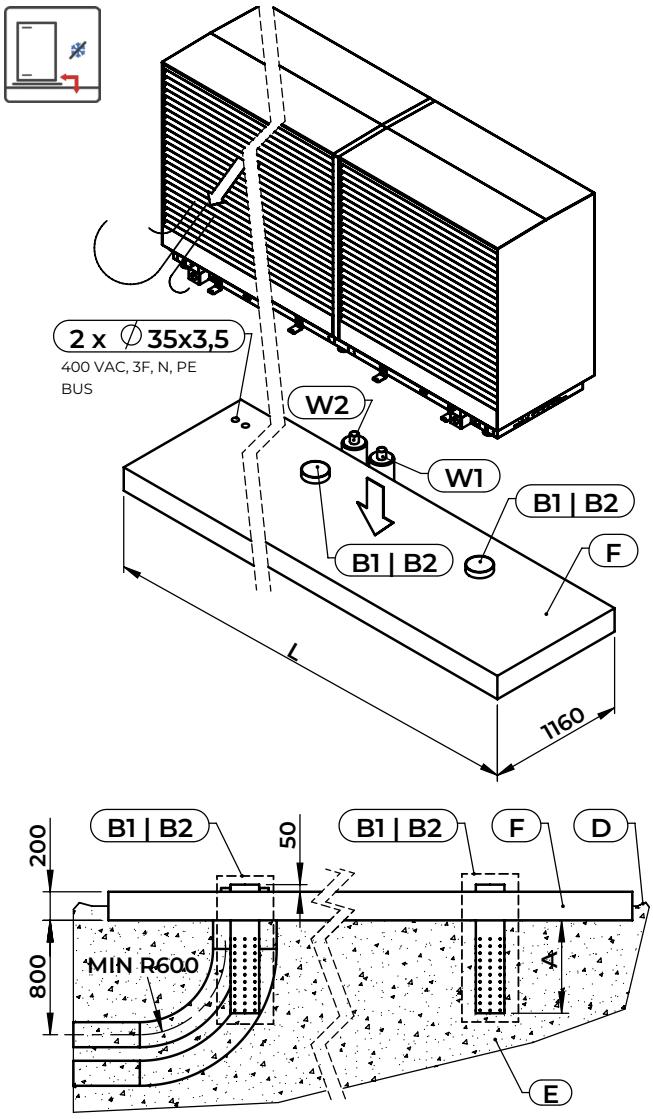


Figure 27: Dimensions and mounting positions for a structural steel foundation

3.3. CONCRETE FOUNDATION - ADAPT MAX 10070-10140

CAUTION

Ensure the sufficient number of drains are prepared:
- ADAPT MAX 10070 - 2
- ADAPT MAX 10105 - 3
- ADAPT MAX 10140 - 4



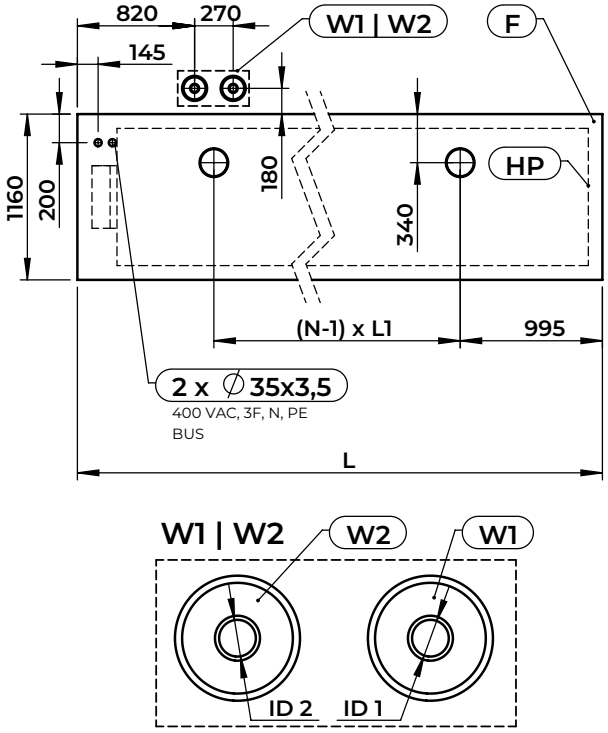


Figure 28: ADAPT MAX 10070-10140 foundation - underground pipe connection

FURTHER INFORMATION

FOUNDATION PLAN ADAPT MAX 10070 – underground pipe connection TPZ(AF) AM 10070

FOUNDATION PLAN ADAPT MAX 10105 - underground pipe connection- TPZ(AF) AM 10105

FOUNDATION PLAN ADAPT MAX 10140 - underground pipe connection - TPZ(AF) AM 10140

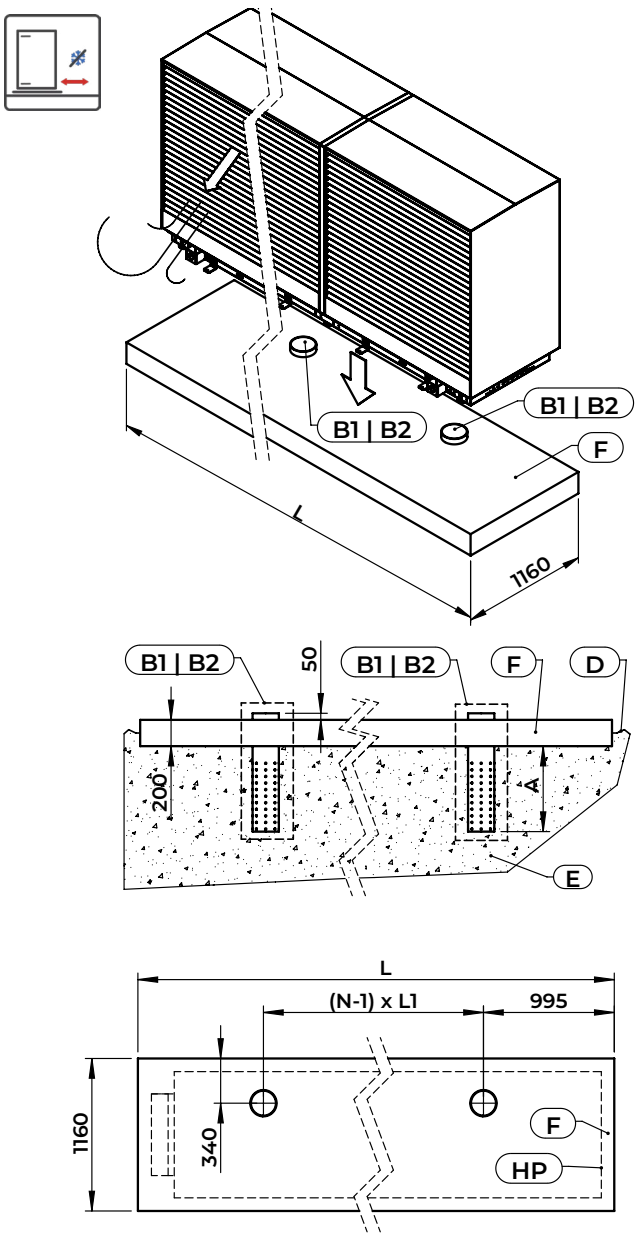


Figure 29: ADAPT MAX 10070-10140 foundation - aboveground pipe connection

	L	N	L1	ID	ID2
ADAPT MAX 10070	3575	2	1625	Ø63 x 5,8	Ø63 x 5,8
ADAPT MAX 10105	5200	3	1625	Ø90 x 8,2	Ø90 x 8,2
ADAPT MAX 10140	6825	4	1625	Ø110 x 10	Ø110 x 10

FURTHER INFORMATION

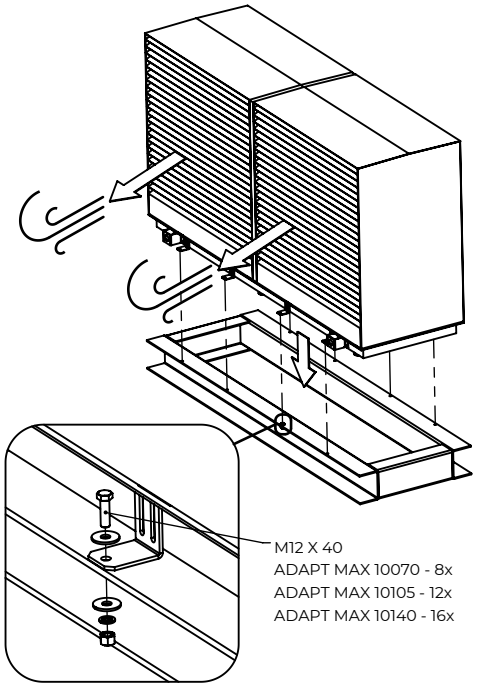
FOUNDATION PLAN ADAPT MAX 10070 - above-ground pipe connection - TNZ(AF) AM 10070

FOUNDATION PLAN ADAPT MAX 10105 - above-ground pipe connection - TNZ(AF) AM 10105

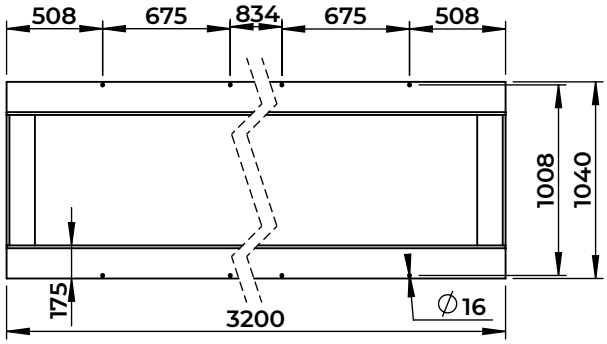
FOUNDATION PLAN ADAPT MAX 10140 - above-ground pipe connection - TNZ(AF) AM 10140

A	Frost depth
B1	Perforated drain pipe
B2	Drain outflow pipe
D	Floor level
E	Compacted ground - water-permeable
F	Reinforced concrete foundation
HP	Heat pump
ID	Min. inner diameter
L	Foundation lenght
L1	Drain spacing
N	Number of drains
W1	Heat pump outlet
W2	Heat pump inlet

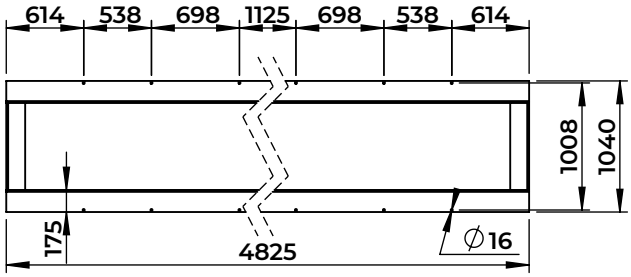
3.4. STRUCTURAL STEEL FOUNDATION - ADAPT MAX 10035 -10140



ADAPT MAX 10070



ADAPT MAX 10105



ADAPT MAX 10140

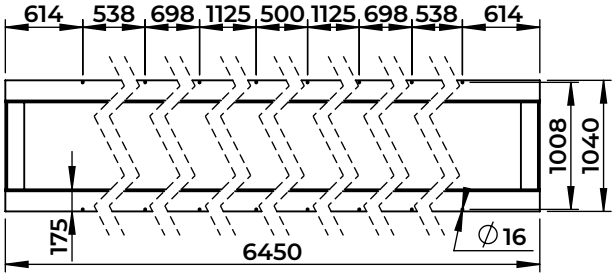


Figure 30: Dimensions and mounting positions for a structural steel foundation

⇦	air flow direction

WARNING:

Figure 30 represents only the minimum required dimensions and mounting hole positions. The design and structural calculations must be done by a structural engineer responsible for the project.

4 UTILITY ROOM PREPARATION

4.1. INSTALLATION OF TEMPERATURE SENSORS

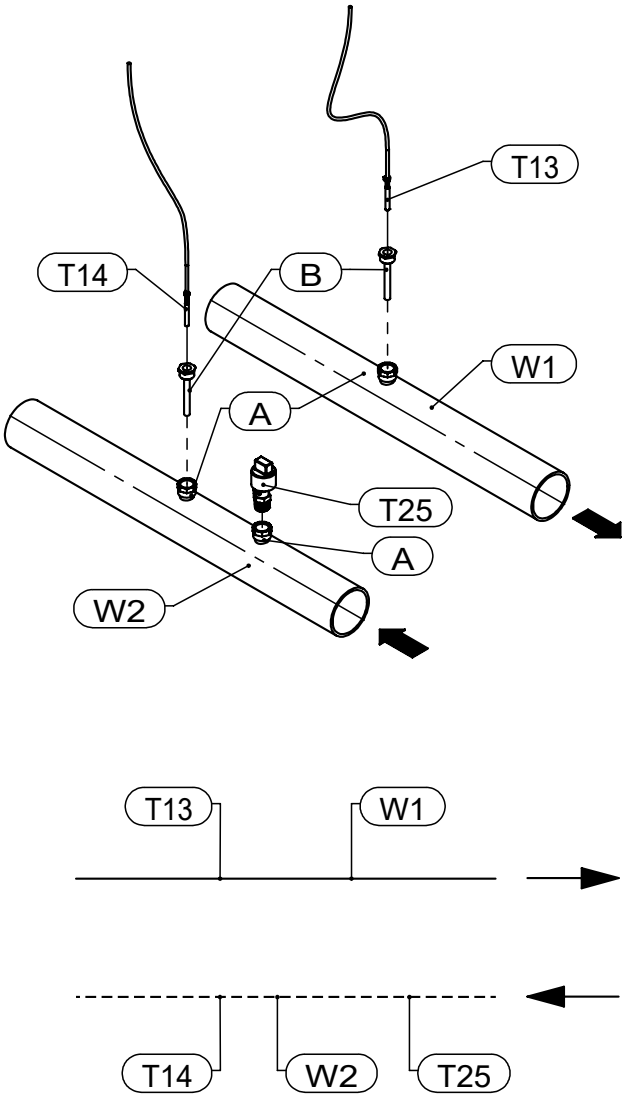


Figure 31: Installation of temperature sensors T13 and T14

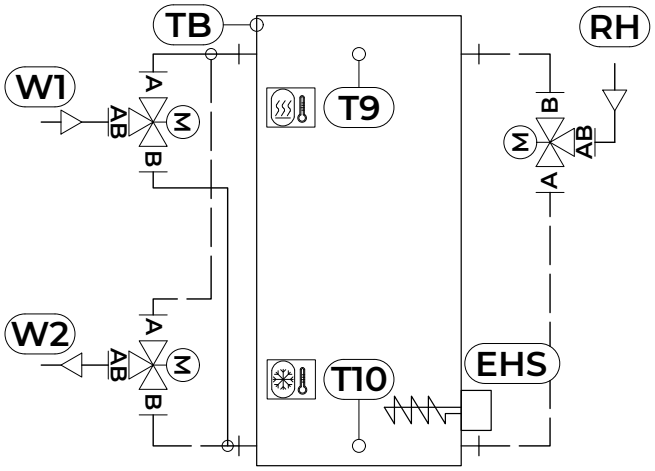


Figure 32: Installation of temperature sensors in the buffer tank

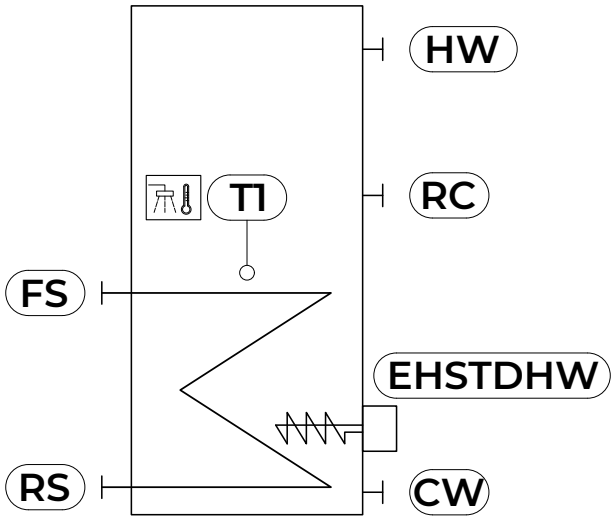


Figure 33: Installation of temperature sensor in the DHW tank

A	1/2'' connection
B	1/2'' sensor sleeve
CW	Sanitary cold water
EHS	Electric immersion heater
EHSTDHW	Electric heater for DHW tank
FS	Flow - sanitary water
HW	Sanitary hot water
M	Mixing valve
RC	Sanitary water recirculation
RH	Return heating system
RS	Return - sanitary water heating
TB	Buffer tank
T1	Temperature - Sanitary water
T9	Temperature sensor - buffer tank heating
T10	Temperature sensor - buffer tank cooling
T13	Temperature sensor - flow common
T14	Temperature sensor - return common
T25	KIT_PP WR KSM 2
W1	Heat pump outlet
W2	Heat pump inlet

4.2. INSTALLATION OF MAGNETIC DIRT SEPARATOR

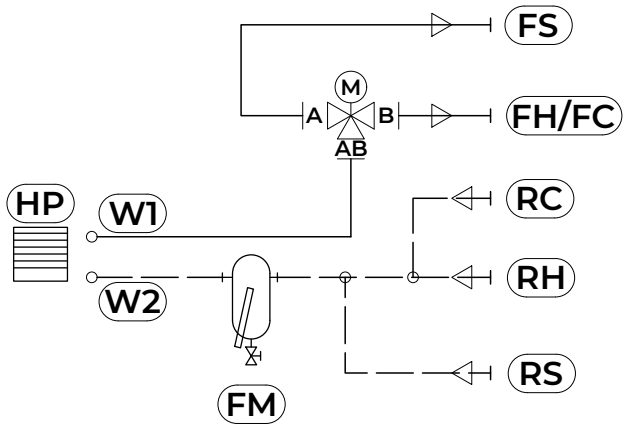


Figure 34: Magnetic dirt separator installed on the return pipe of the heat pump

FC	Flow cooling
FH	Flow heating
FM	Magnetic dirt separator
FS	Flow - sanitary water heating
HP	ADAPT MAX
M	Mixing valve
RC	Sanitary water recircolation
RH	Return heating system
RS	Return pipe - sanitary water heating
W1	Heat pump outlet
W2	Heat pump inlet

5 ELECTRICAL CONNECTION PREPARATION

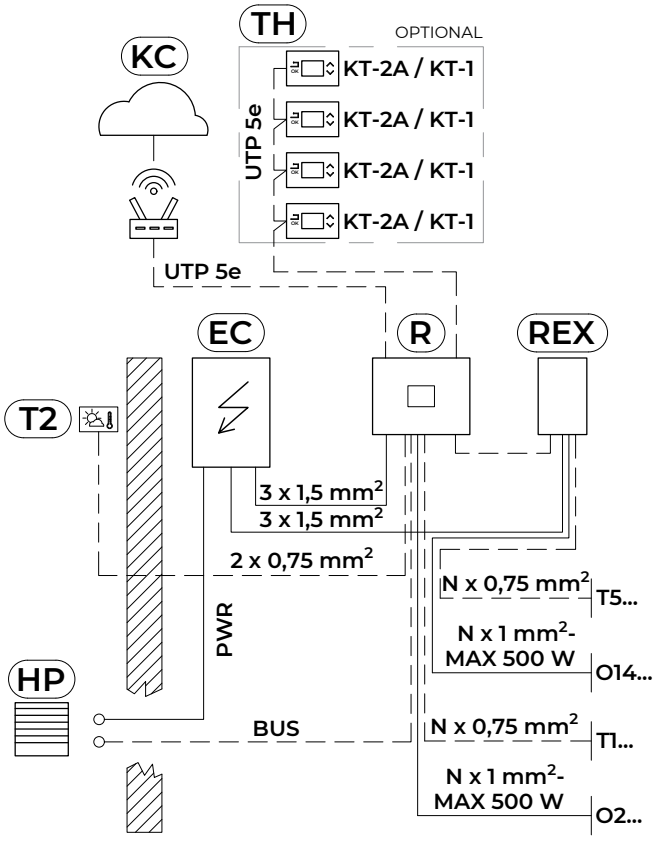


Figure 35: Electrical connection diagram ADAPT MAX

BUS	Communication connection
EC	Electrical distribution cabinet
HP	ADAPT MAX
KC	CLOUD.KRONOTERM
PWR	Power supply cable
R	WR KSM 2 / WR KSM MAX 10070-10140
REX	WR KSM+
TH	KT-2A (up to 4 x)
T2	Temperature sensor - Outdoor

5.1. FUSES AND CABLE

CAUTION

The buildings main electrical cabinet must have built in fuses that are at least one stage bigger than the fuses prescribed in the Table 8.

The power cable must be determined by the electrical installation system designer according to the method of installation. Table 8 shows the cable cross sections according to the installation method C.

Table 8: Max electrical capacity, dimensions of fuses and cables (installation method C)

	Electrical capacity [kW]	Fuse [A]	Cable [mm²]
ADAPT MAX 10035	16.4	3 x 25	5 x 6
ADAPT MAX 10070	32.8	3 x 50	5 x 16
ADAPT MAX 10105	49.2	3 x 80	5 x 25
ADAPT MAX 10140	56.6	3 x 100	5 x 35

5.2. COMMUNICATION CONNECTION

Table 9: Communication cables

	Communictaion cable:
ADAPT MAX 10035	FTP 5e / LIYCY 3 x 0,5 mm²
ADAPT MAX 10070	2 x FTP 5e / LIYCY 6 x 0,5 mm²
ADAPT MAX 10105	3 x FTP 5e / LIYCY 10 x 0,5 mm²
ADAPT MAX 10140	4 x FTP 5e / LIYCY 12 x 0,5 mm²

When preparing communication cables, label each cable on both sides with numbers from 1 to 4.

5.3. OUTDOOR TEMPERATURE SENSOR

Use cable **2 x 0.75 mm²**.

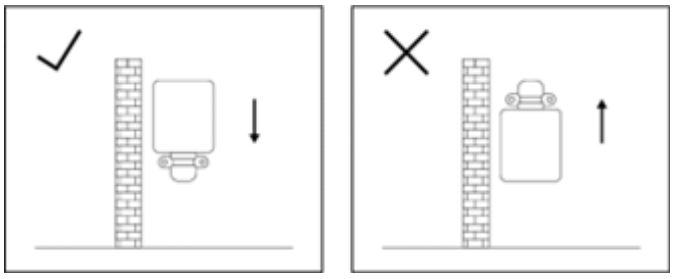


Figure 36: Correct and incorrect installation of the outdoor temperature sensor

CAUTION

The sensor should be installed:
- always in a shaded position;
- at least 1 m from the ground;
- in a vertical position;
- in a water-tight manner to prevent water ingress.
The cable must be routed upwards: from the ground to the sensor.

FURTHER INFORMATION

OUTDOOR TEMPERATURE SENSOR

5.4. INTERNET CONNECTION

NOTE

Prepare an UTP 5e cable with an RJ45 connector for the installation location.

5.5. KT-2A CONTROLLER

CAUTION

For easy operation and maximum comfort, install the KT-2A controller in the REFERENCE LIVING SPACE.

Use UTP 5e or 4 x 0.75 mm² cable for the cable connection between the KT-2A and the device.

The KT-2A controller comes with a wall mount, suitable for flush installation and surface-mounted installation. Install the KT-2A controller in a standard 3M junction box.

If you will use several KT-2A units in the building, make the connection according to the diagram in the KT-2A Installation manual.

For accurate temperature measurements of the KT-2A:

• install on the wall, at a height of 1.2 - 1.5 m from the ground;

• DO NOT install on external uninsulated walls;

• prevent direct solar radiation on the KT-2A.

FURTHER INFORMATION

KT-2A

6 INSTALLATION

6.1. REMOVAL OF PACKAGING

ADAPT MAX is delivered on a pallet, protected by cardboard and plastic film.

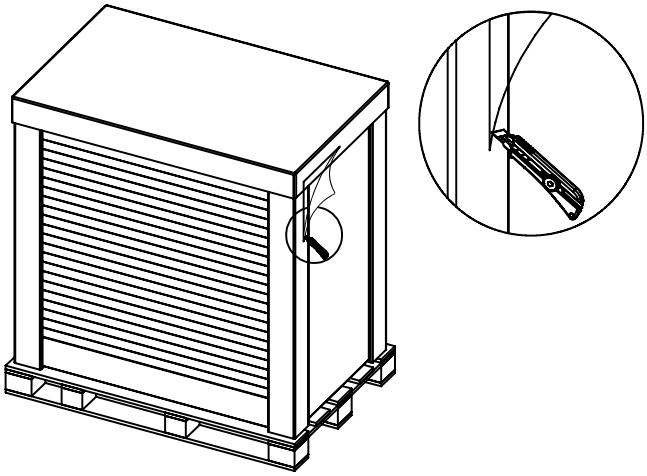


Figure 37: Removal of packaging

Dispose of the packaging in compliance with applicable regulations.

6.2. REMOVAL OF EXTERNAL PANELS

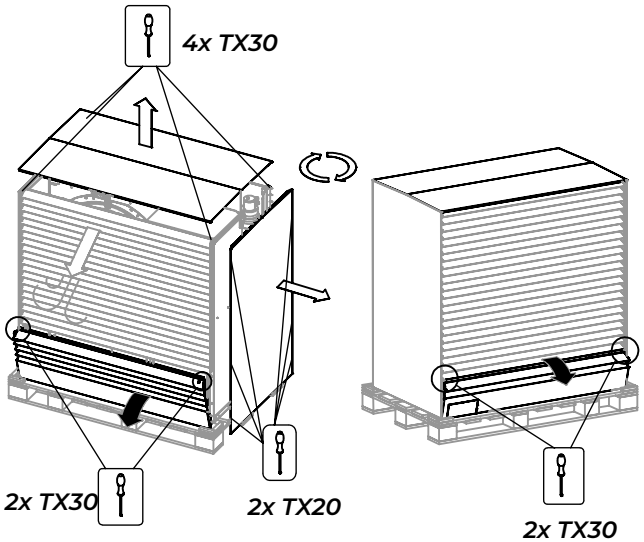


Figure 38: Removal of sides – ADAPT MAX 10035

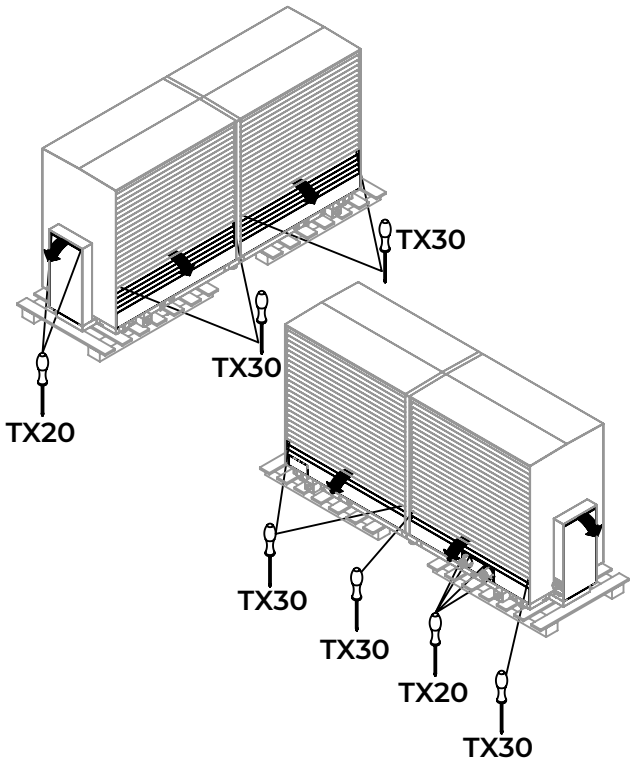


Figure 39: Removal of sides – ADAPT MAX 10070-10140

6.3. REMOVAL FROM THE PALLET

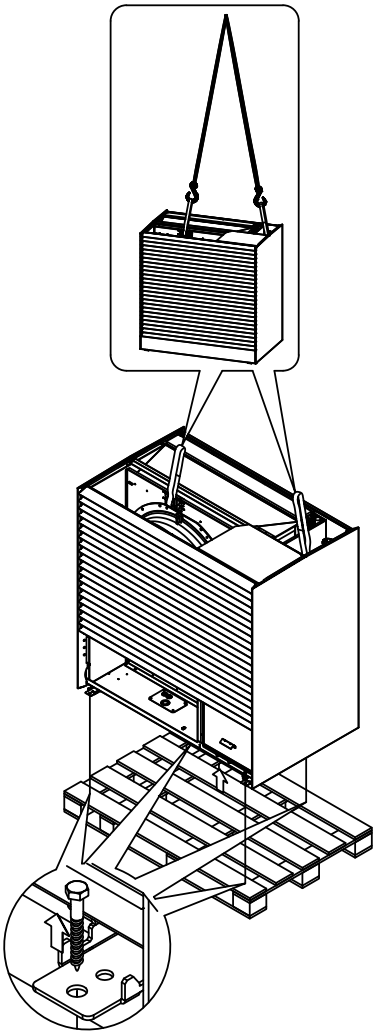


Figure 40: Removal from the pallet - ADAPT MAX 10035

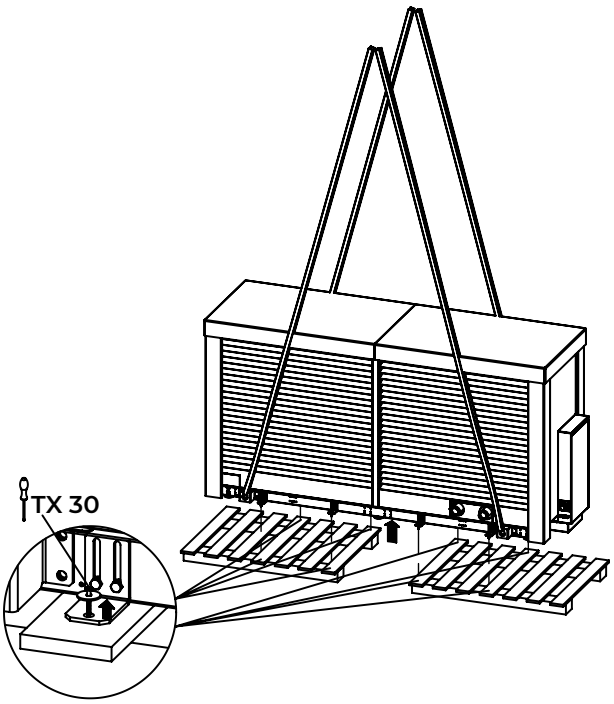


Figure 41: Removal from the pallet - ADAPT MAX 10070-10140

6.4. INSTALLATION ON THE FOUNDATION AND LEVELING

CAUTION

For proper condensate drainage and operation, it is necessary to correctly level the heat pump.

After leveling, attach the heat pump to the foundation.

There is an air gap between the foundation and the heat pump. The gap must remain clear to ensure the refrigerant can escape in case of a leak.

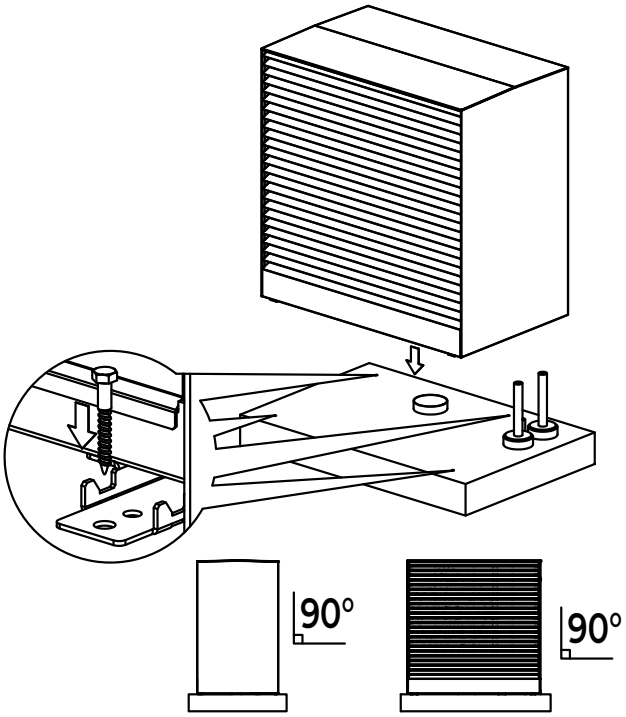


Figure 42: ADAPT MAX 10035 – Installation on the foundation and leveling.

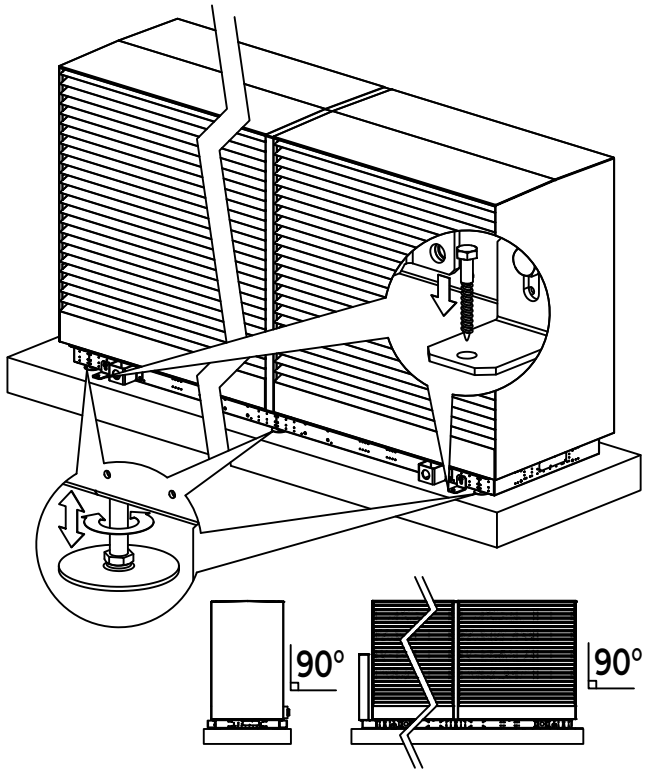


Figure 43: ADAPT MAX 10070-10140 – Installation on the foundation and leveling.

6.5. CONDENSATE DRAIN

CAUTION

To ensure safe and uninterrupted operation, it is necessary to install the condensate drain tube into the foundation drain pipe. Pay attention to the correct installation of the condensate drain tube heating cable.

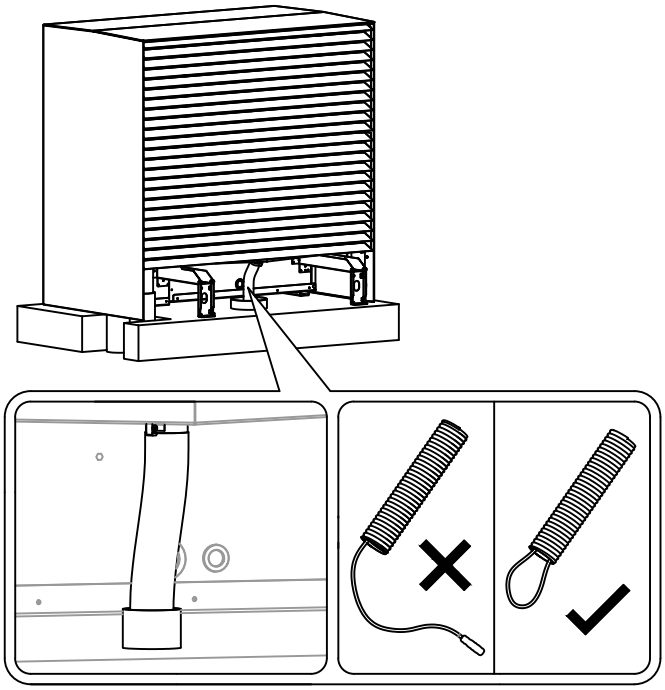


Figure 44: ADAPT MAX 10035 - installation of condensate pipe into drain

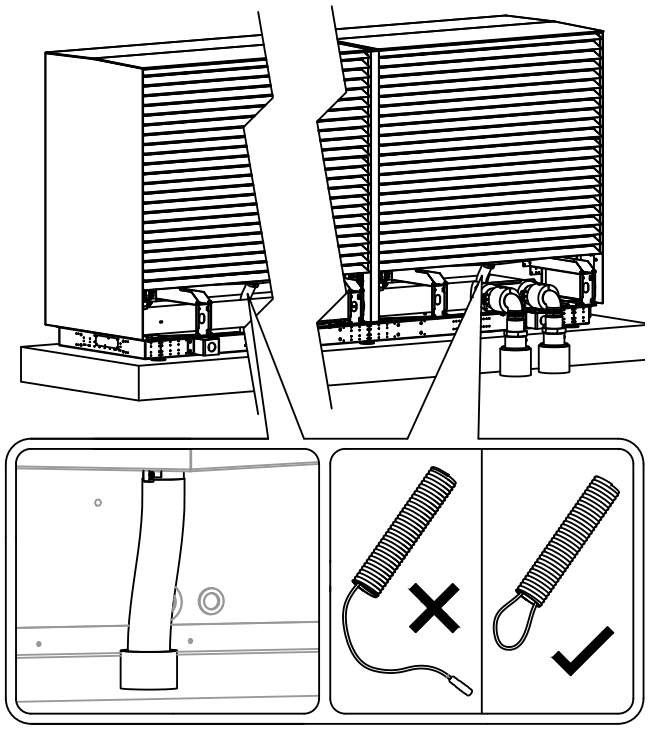


Figure 45: ADAPT MAX 10070-10140 - installation of condensate drain tube into the foundation drain pipe.

6.6. REMOVAL OF THE TRANSPORT PROTECTION

Remove the transport protection as indicated in the figures 44 and 45. Take note that the number of transport protections depends on the model of the heat pump -ADAPT MAX 10035 - 1,
-ADAPT MAX 10070 - 2,
-ADAPT MAX 10105 - 3,
-ADAPT MAX 10140 - 4.

CAUTION

Be sure to remove the transport protection. Otherwise, there may be increased vibration, noise, equipment failure, or refrigerant leakage.

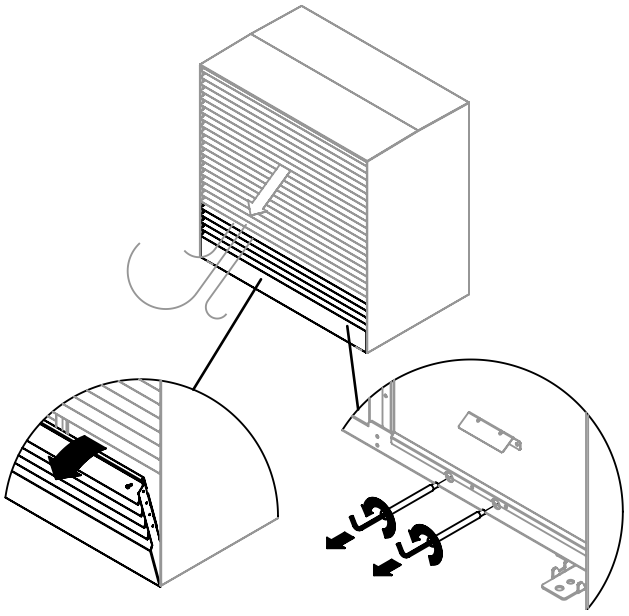


Figure 46: Removal of transport protection for ADAPT MAX 10035.

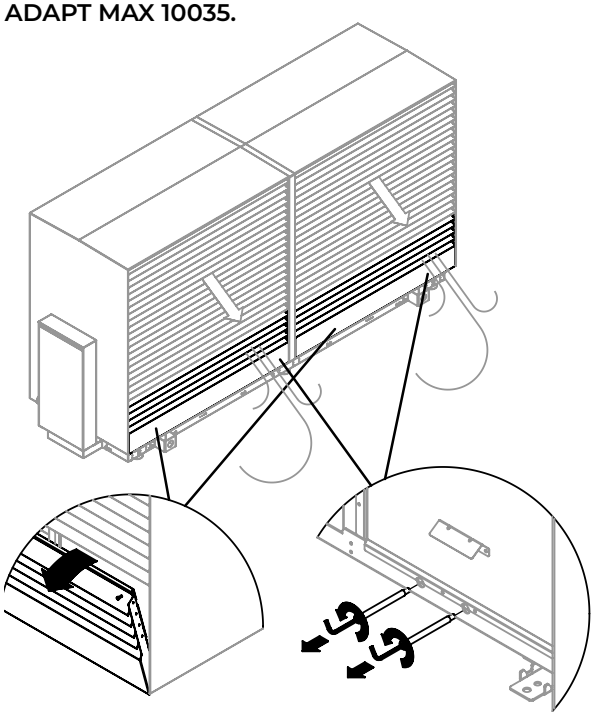


Figure 47: Removal of transport protection for ADAPT MAX 10070-10140.

7 PIPE CONNECTION

7.1. ADAPT MAX 10035 - UNDERGROUND CONNECTION

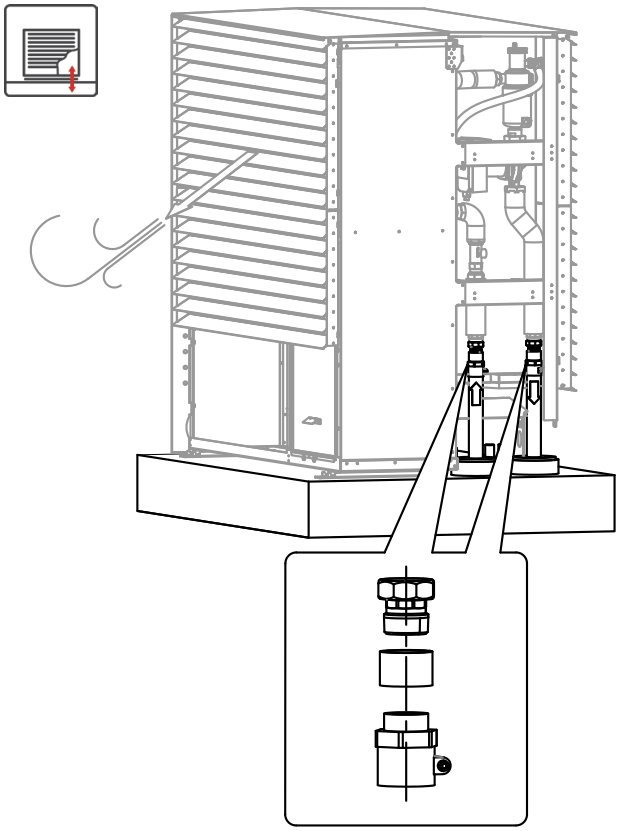


Figure 48: ADAPT MAX 10035 underground pipe connection

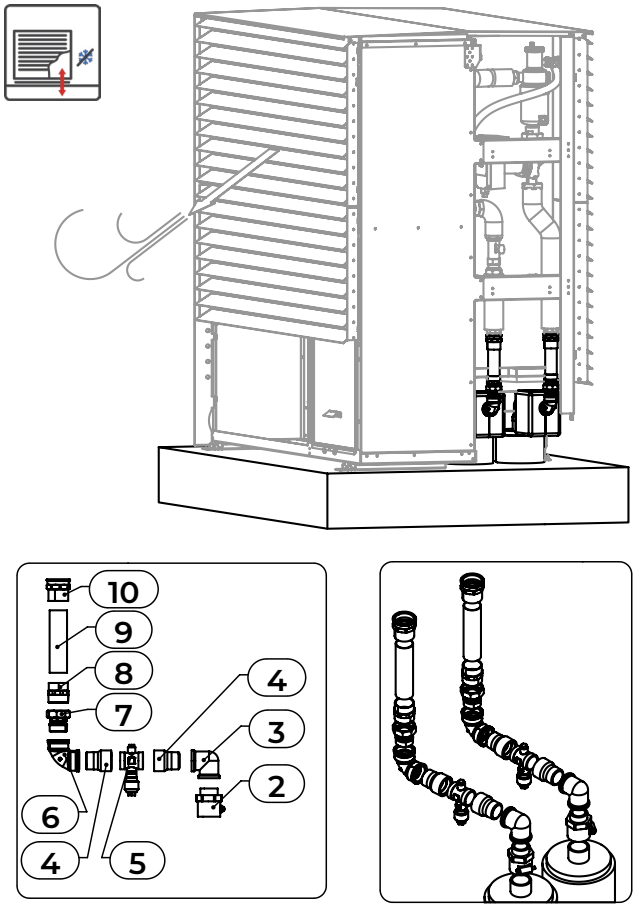


Figure 49: ADAPT MAX 10035 underground connection with anti-freeze valves.

2	Coupling WIPEX PN6 50X4,6-G1 1/4'' (1018331)
3	Elbow WIPEX PN6 G1 1/4'' - G1 1/4'' (1018351)
4	Adapter G1 1/4'' - G1 1/4'' - 85
5	SET_VIV 10035
6	Elbow Rp 1 1/4 - Rp 1 1/4''
7	Connection screw fitting R 1 1/4'' ET - G 1 1/2'' IT
8	Adapter R 1 1/2'' ET - DN40
9	Pipe DN40
10	Adapter DN40 - Rp1 1/2'' IT

7.2. ADAPT MAX 10035 - ABOVE-GROUND PIPE CONNECTION

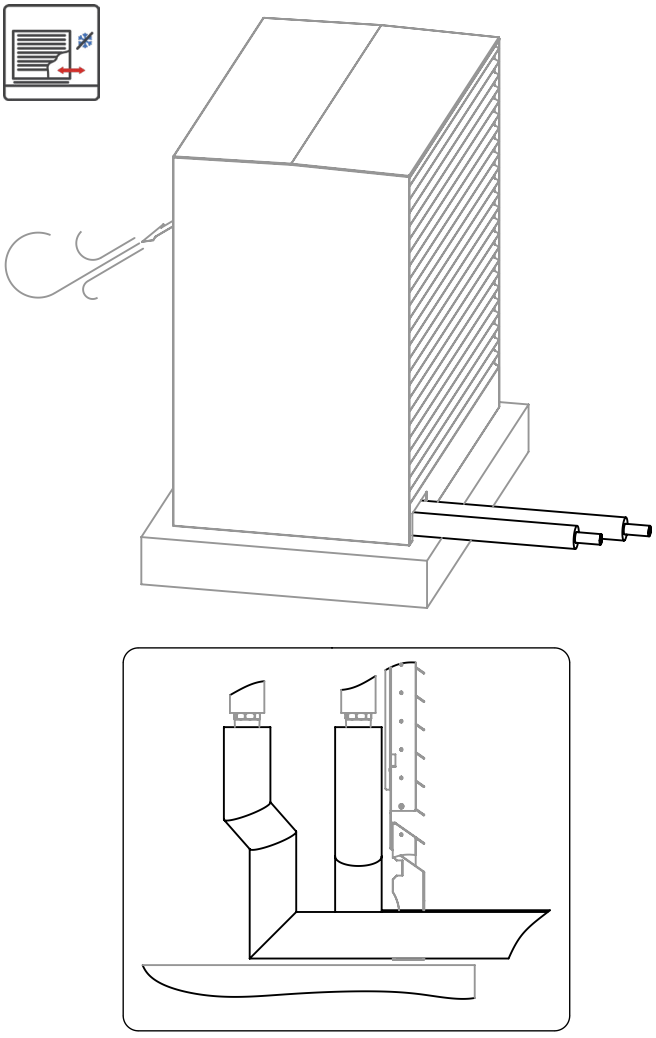


Figure 50: ADAPT MAX 10035 - above-ground pipe connection with anti-freeze valves (optional)

7.3. ADAPT MAX 10070 - ADAPT MAX 10140 UNDERGROUND PIPE CONNECTION

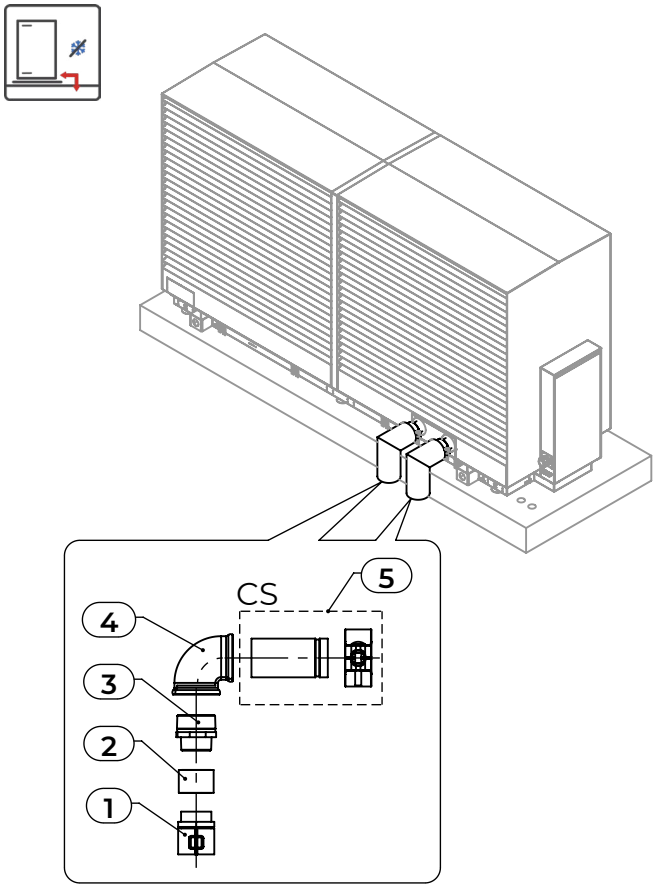


Figure 51: ADAPT MAX 10070-10140 – underground pipe connection with anti-freeze valves (optional)

1	PE(X) pipe coupling
2	Sleeve
3	Reducer
4	Elbow
5	SET_W1-W2 VIC ADAPT MAX or SET_VIV 10070-10140

7.4. ADAPT MAX 10070 - ADAPT MAX 10140 ABOVE-GROUND PIPE CONNECTION

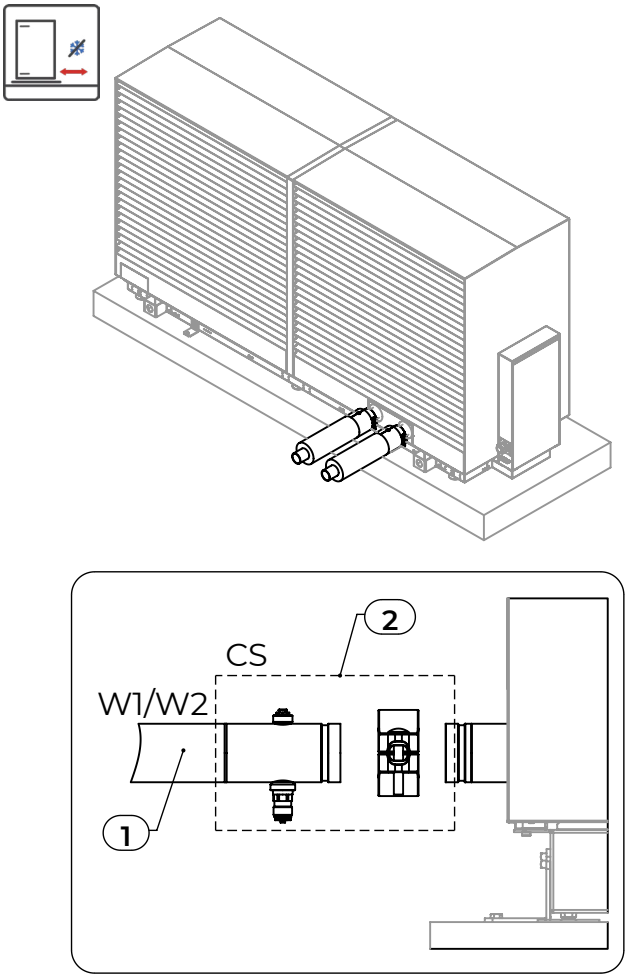


Figure 52: ADAPT MAX 10070-10140 - above-ground pipe connection with anti-freeze valves (optional).

1	Pipe
2	SET_W1-W2 VIC ADAPT MAX or SET_VIV 10070-10140

8 ELECTRICAL CONNECTION

CAUTION

Connect the device to the electrical mains in accordance with the standards for connecting to the electrical mains.

Connect the device to the electrical network via the safety device built into the buildings electrical installation according to the applicable national regulations.

Use a safety device that separates all contacts under overvoltage category III conditions - minimum contact spacing of 3 mm.

The cross-section of the cable conductors is determined by the electrical system designer based on the method of installation, the distance of the device from the main electrical cabinet, and the electrical power of the device.

Route the communication cable between the heat pump and the indoor unit separately from the power cable.

DANGER

Before commissioning the device, the connection to the mains and the electrical connections of the nonintegrated elements must be checked by an authorised person from the manufacturer or the authorized distributor to ensure the correct and efficient operation of the device.

UNAUTHORISED PERSONS ARE STRICTLY FORBIDDEN TO INTERFERE WITH THE ELECTRICAL CONNECTION OF THE DEVICE.

ADAPT MAX 10035 & ADAPT MAX 10070: Connect the device to the electrical supply, which is protected by a type B or B+, 30mA RCD switch. (ADAPT MAX 10035 – 10070).

8.1. POWER SUPPLY CONNECTION

Connect the electrical power supply cable as shown in the pictures below.

CAUTION

Route the cables through the cable glands. Tighten cable glands with the appropriate torque to relieve cable strain.

Ensure there is enough slack in the cables to avoid cable tension or strain.

The three-phase power supply must be connected in the right phase order.

8.1.1. ADAPT MAX 10035

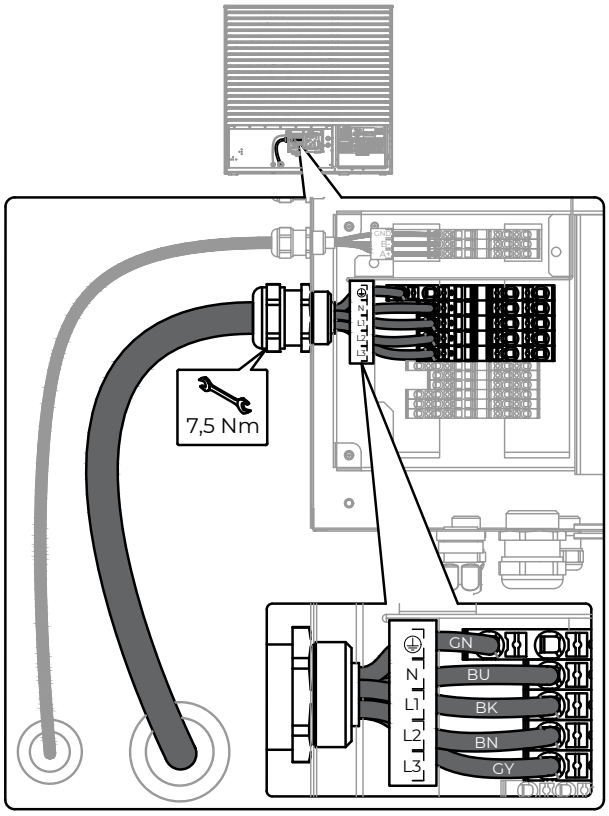


Figure 53: ADAPT MAX 10035 – connection of power supply

8.1.2. ADAPT MAX 10070 – ADAPT MAX 10140

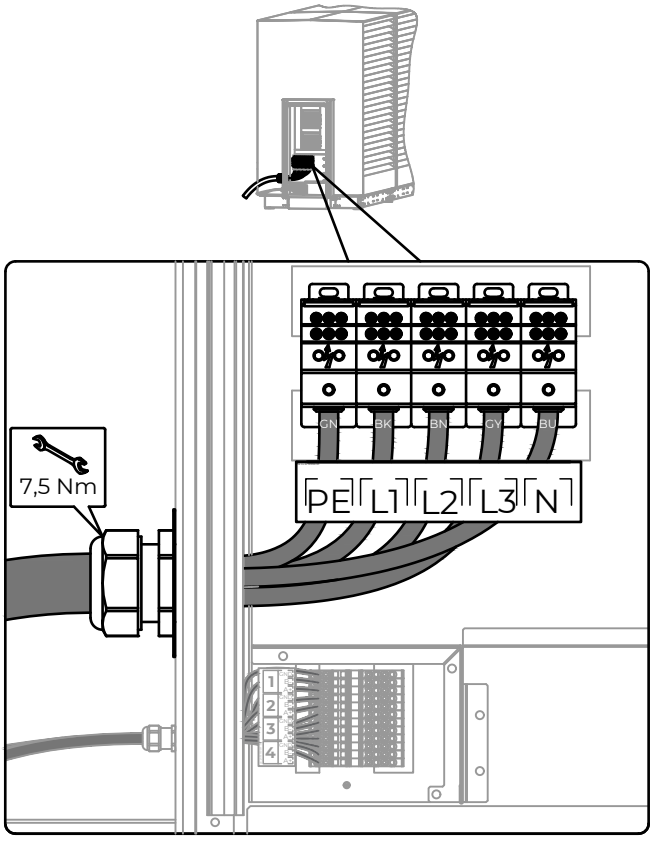


Figure 54: ADAPT MAX 10070-10140 - connection of power supply

8.2. CONNECTION OF COMMUNICATION

8.2.1. ADAPT MAX 10035

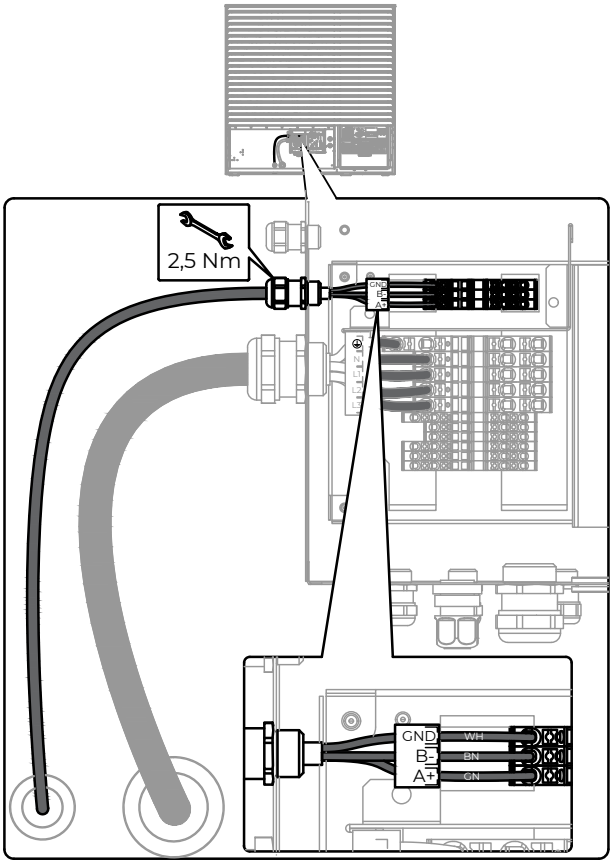


Figure 55: ADAPT MAX 10035 - communication connection

8.2.2. ADAPT MAX 10070 – ADAPT MAX 10140

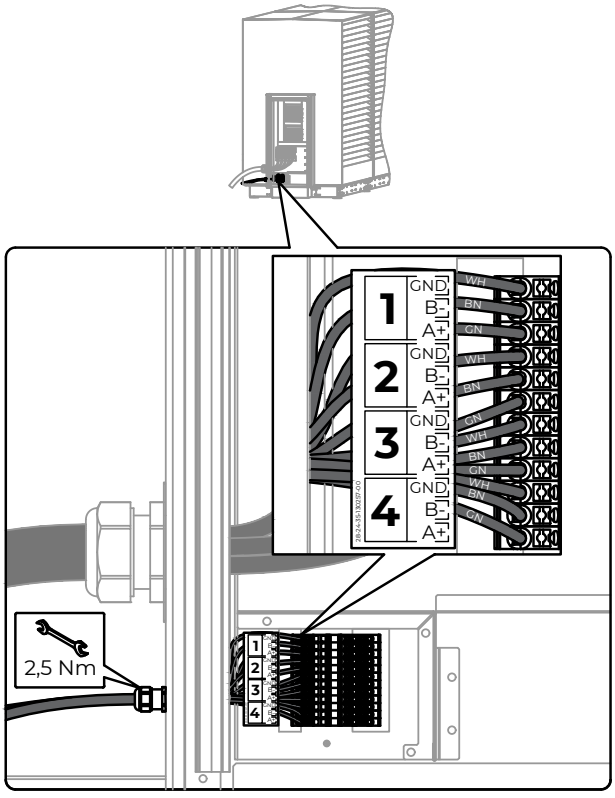


Figure 56: ADAPT MAX 10070-10140 - communication connection

9 FILLING THE SYSTEM

9.1. REQUIREMENTS FOR WATER QUALITY

CAUTION

See table 10 for heating system water quality requirements.

The water you use in the heating system must be in accordance with the requirements of standard VDI 2035 and must not contain microorganisms. Fill the heating system with soft water, to which you add anticorrosive and antibacterial agents.

Thoroughly clean the heating system before filling.

Completely deaerate the heating system. Prevent air from getting into the heating system.

Table 10: The allowed limits of various substances in the heating water in the heating system

SUBSTANCE	UNIT	ALLOWED LIMITS
Organic sediment	mg/l	
Ammonia NH_3	mg/l	<2
Chloride	mg/l	<10
Allowed water hardness	°dH	<3
Electrical conductivity	µS/cm	50–100
Iron (Fe) secreted	mg/l	<0.1
Free carbonic acid	mg/l	<5
Copper	mg/l	<0.02
Manganese (Mn) secreted	mg/l	<0.1
Nitrates (NO_3) secreted	mg/l	<100
pH		8.2-10
Oxygen	mg/l	<0.1
Hydrogen sulfide (H_2S)	mg/l	<0.05
HCO_3^- / SO_4^{2-}	mg/l	>1
Hydrogen carbonate (HCO_3^-)	mg/l	70–300
Aluminium (Al) secreted	mg/l	<0.2
Sulphates	mg/l	<70
Sulphite (SO_3)	mg/l	<1
Chlorine (gas) (Cl_2)	mg/l	<1

NOTE

For installations in Switzerland ensure that the heating system water is in accordance with SWKI BT 102-01.

9.2. FILLING PROCESS

Use the appropriate charging device for filling, in accordance with VDI 2035, as shown in the picture below.

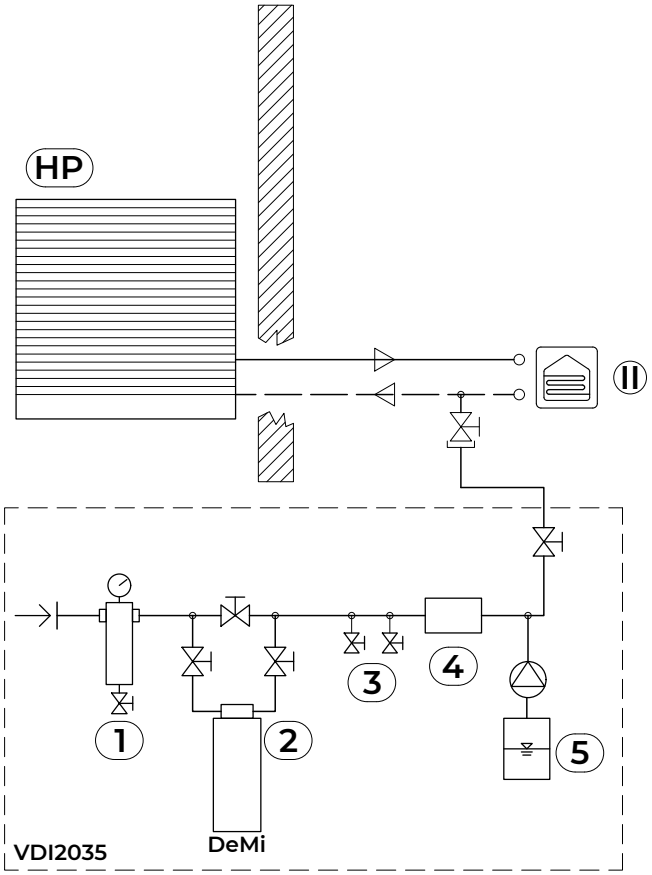


Figure 57: Heating system filling diagram

HP	ADAPT MAX
II	Heating system
1	Filter with pressure regulator
2	Demineralization cartridge
3	Connection for measuring conductivity and pH
4	Backflow preventer
5	Corrosion inhibitor fluid and dosing pump

NOTE

The device is designed to automatically vent itself (element E on page 3).

10 SYSTEM COMMISSIONING

CAUTION

Commissioning may only be carried out by suitably quali-fied and authorised persons of the manufacturer an authorised commisioning technician.

Commisioning must be carried out following the pre-scribed procedures and instructions.

The device manufacturer will consider the warranty as voided if the device is commissioned differently from the manner prescribed herein.

FURTHER INFORMATION

COMMISSIONING

NOTE

Ask the commissioning technician to explain in detail how the device works and how to operate it.

After a successful commissioning, the authorised commissioning technician confirms that he has carried out the commissioning in accordance with the requirements of the device manufacturer.

A report on a successful commissioning is a condition for the validity of the heat pump warranty.

MAINTENANCE

11 MAINTENANCE

11.1. HEAT PUMP MAINTENANCE

CAUTION

Once a year, order a service and maintenance inspection at an authorised service centre.

In case of clogging of the strainer and the magnetic filter, this may result in lower efficiency, disruptions or malfunction of the device.

For easier and better maintenance, receiving software updates, diagnostics and technical support, the device should be connected to the Internet.

The pressure in the heating system should be between 1.2 and 2.0 bar. If necessary, recharge the pressure either manually or with an electronic charging system.

Before any intervention in the device, disconnect the power supply of the device, check the surroundings of the device, especially the area between the foundation and the device, with an electronic detector for R290 refrigerant. Ensure that the atmosphere is not contaminated with flammable refrigerant. Vent the area around the device.

Use only electronic leak detectors for leak detection that are suitable for potentially flammable atmospheres and are not potential sources of ignition. The use of flame gas detectors is prohibited.

In case of intervention in the refrigerant system of a heat pump, a powder or CO_2 fire extinguisher must be prepared next to the device. You must place a no smoking sign in the designated area.

Make sure that your clothes do not generate static electricity buildup. Before entering the device area, discharge by touching the grounded part.

Follow the service instructions.

DANGER

If a leakage of refrigerant is found that requires brazing, all refrigerant must be recovered from the system. The removal process for refrigerant is explained later in the manual.

FURTHER INFORMATION

MAINTENANCE MANUAL

NOTE

Monitor the pressure in the heating system with KT-2A or the KRONOTERM HOME.CLOUD app.

11.1.1. CLEANING

Use a soft cloth and mild soapy water to clean the device.

11.1.2. REGULAR INSPECTIONS

MONITOR	CHECK ESPECIALLY		
HOME.CLOUD APP / KT-2A	Warnings and errors	✓	✓
PRESSURE IN THE HEATING SYSTEM	Pressure rate (1.2 – 2.0 bar)	✓	✓

1x A YEAR we recommend inspecting the heat pump:

INSPECT	CHECK ESPECIALLY		
ENTIRE DEVICE AND SYSTEM	General inspection, tightness	✓	✓
TESTING THE REFRIGERATION SYSTEM - INSPECTION WITH AN ELECTRONIC DETECTOR.	Oil stains, warnings, and malfunctions		✓
MAGNETIC DIRT SEPARATOR	Operation, inspection, cleaning		✓
ANTI-FREEZE AGENT	Freezing point		✓
DEVICE	Signs of corrosion	✓	✓
VAPOUR-BARRIER THERMAL INSULATION	Damage, signs of wear	✓	✓
PIPES AND CONNECTIONS	Signs of wear, damage, non-tightness		✓
CABLE CONNECTIONS	Wear, damage		✓
SOFTWARE (KSM)	Software update		✓

11.2. HANDLING OF REFRIGERANT

11.2.1. REMOVAL OF REFRIGERANT

⚠ DANGER

When removing flammable refrigerant from the system, in addition to the normal procedure, it is mandatory to adhere to the following procedure:

- **remove refrigerant,**
- **purge the circuit with inert gas,**
- **evacuate,**
- **purge with inert gas,**
- **open the circuit by cutting or brazing.**

The refrigerant charge shall be recovered into the correct recovery cylinders. The system shall be purged with oxygen-free nitrogen to render the appliance safe for flammable refrigerants. This process may need to be repeated several times. Compressed air or oxygen shall not be used for purging refrigerant systems.

Complete refrigerants purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated until no refrigerant is within the system. When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. This operation is absolutely vital if brazing operations on the pipe-work are to take place.

Ensure that the outlet for the vacuum pump is not close to any potential ignition sources and that ventilation is available.

11.2.2. CHARGING PROCEDURES

⚠ DANGER

In addition to conventional charging procedures, the following requirements shall be followed with flammable refrigerant:

- **Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them.**
- **Cylinders shall be kept in an appropriate position according to the instructions.**
- **Ensure that the refrigerating system is earthed prior to charging the system with refrigerant.**
- **Label the system when charging is complete (if not already).**
- **Extreme care shall be taken not to overfill the refrigerating system.**

Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas (nitrogen). The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

11.2.3. RECOVERY

DANGER

When servicing or decommissioning the appliance, remove all refrigerant safely into a cylinder. When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Before starting the removal, make sure you have enough cylinders for refrigerant in the appliance.

Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of the flammable refrigerant. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition.

Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.

The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant.

The evacuation process shall be carried out prior to returning the compressor to the suppliers. Only electric heater for the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely.

11.3. HEATING SYSTEM MAINTENANCE

In addition to a quality system and good implementation, the correct use of the system is crucial. Only in this way will the operation of the system be long-lasting, smooth and economical.

11.3.1. REGULAR INSPECTION OF THE HEATING SYSTEM

1x A YEAR we recommend inspecting the heating system:

INSPECT	CHECK ESPECIALLY		
VENTS	Leakage	✓	✓
SYSTEM	Presence of air	✓	✓
PIPES AND CONNECTIONS	Non-tightness		✓
PIPES AND CONNECTIONS	Signs of corrosion	✓	✓
HEATING SYSTEM	Material compatibility, grounding	✓	✓
CABLE CONNECTIONS	Wear, damage	✓	✓
GROUNDING	Ensure proper grounding of the heating system.		✓
ELECTRONIC FUSES (ELECTRODISTR-IBUTION CABINET)	Operation	✓	✓
WATER IN THE HEATING SYSTEM	Water quality		✓
HEATING SYSTEM SAFETY VALVE	Operation		✓
HEATING SYSTEM EXPANSION TANK			✓

CAUTION

Air in the system impairs comfort and efficiency and can cause corrosion, leading to malfunctions or leaking heating elements of the heating system.

12 TECHNICAL DATA

DEVICE	Unit	ADAPT^{MAX} 10035	ADAPT^{MAX} 10070	ADAPT^{MAX} 10105	ADAPT^{MAX} 10140
DEDICATED INDOOR UNIT					
Dedicated indoor unit		WR KSM 2, WR KSM C, WR KSM+	WR KSM 2, WR KSM C, WR KSM+	WR KSM 2, WR KSM C, WR KSM+	WR KSM 2, WR KSM C, WR KSM+
VERSION					
Heat source		Air	Air	Air	Air
Heat sink		Water / Water-ethylene glycol 30%	Water / Water-ethylene glycol 30%	Water / Water-ethylene glycol 30%	Water / Water-ethylene glycol 30%
Controller		KSM	KSM	KSM	KSM
Heat pump location		Outdoor	Outdoor	Outdoor	Outdoor
Controller position		In the indoor unit	In the indoor unit	In the indoor unit	In the indoor unit
Compressor		1 x scroll with variable speed	2x scroll with variable speed	3x scroll with variable speed	4x scroll with variable speed
Compressor drive		DC Inverter	DC Inverter	DC Inverter	DC Inverter
Fan		1x Axial with with variable flow	2x Axial with with variable flow	3x Axial with with variable flow	4x Axial with with variable flow
Defrosting		Active (refrigerant changes direction)	Active (refrigerant changes direction)	Active (refrigerant changes direction)	Active (refrigerant changes direction)
Circulation pump		Integrated	Integrated	Integrated	Integrated
Water flow sensor		Integrated	Integrated	Integrated	Integrated
Pressure sensor		Optional (Additional equipment)	Optional (Additional equipment)	Optional (Additional equipment)	Optional (Additional equipment)

CAPACITY ACCORDING TO STANDARD EN 14511

HEATING		Heating capacity / electrical power / COP	Heating capacity / electrical power / COP	Heating capacity / electrical power / COP	Heating capacity / electrical power / COP
A7/W30-35 [1]	**kW/kW/-**	26,77 / 5,02 / 5,33	53,48 / 10,04 / 5,33	80,19 / 15,06 / 5,33	106,90 / 20,08 / 5,32
A7/W30-35 [2]	**kW/kW/-**	35,40 / 7,29 / 4,86	70,74 / 14,58 / 4,85	106,09 / 21,86 / 4,85	141,43 / 29,15 / 4,85
A-7/W30-35 [2]	**kW/kW/-**	30,83 / 10,50 / 2,94	61,60 / 20,99 / 2,93	92,36 / 31,49 / 2,93	123,13 / 41,99 / 2,93
A-10/W30-35 [2]	**kW/kW/-**	30,26 / 10,90 / 2,78	60,50 / 21,84 / 2,77	90,80 / 32,77 / 2,77	121,05 / 43,70/ 2,77
A7/W47-55 [1]	**kW/kW/-**	26,49 / 7,63 / 3,47	52,92 / 15,27 / 3,47	79,10 / 22,90/ 3,46	105,79 / 30,54 / 3,46
A7/W47-55 [2]	**kW/kW/-**	34,94 / 11,05 / 3,16	69,81 / 22,11 / 3,16	104,68 / 33,16 / 3,16	139,56 / 36,18 / 3,16
A-10/W47-55 [2]	**kW/kW/-**	31,12 / 15,12 / 2,06	62,22 / 30,35 / 2,05	93,30 / 45,51 / 2,05	124,40 / 60,68 / 2,05
COOLING		**Cooling capacity / electrical power / EER**	**Cooling capacity / electrical power / EER**	**Cooling capacity / electrical power / EER**	**Cooling capacity / electrical power / EER**
A35/W12-7 [1]	**kW/kW/-**	30,30 / 11,03 / 2,75	60,54 / 22,07 / 2,74	90,77 / 33,10 / 2,74	121,01 / 44,13 / 2,74
A35/W23-18 [1]	**kW/kW/-**	30,13 / 6,51 / 4,63	60,20 / 13,02 / 4,62	90,27 / 19,53 / 4,62	120,33 / 26,04 / 4,62

[1] Standard rating condition
[2] Operation at maximum heating capacity

DEVICE	Unit	ADAPT^{MAX} 10035	ADAPT^{MAX} 10070	ADAPT^{MAX} 10105	ADAPT^{MAX} 10140
SEASONAL ENERGY EFFICIENCY FOR HEATING ACCORDING TO DIRECTIVE (EU) 811/2013 – DATA SHEET					
Temperature mode	**°C**	35/55	35/55	35/55	35/55
Seasonal energy efficiency class		A+++ / A+++	A+++ / A+++	A+++ / A+++	A+++ / A+++
Rated heating capacity Pdesignh, average climate zone	**kW**	27 / 27	53 / 53	80 / 80	106 / 106
Seasonal space heating energy efficiency ηs, average climate zone	**%**	230 / 171	229 / 171	229 / 171	229 / 171
Annual energy consumption average climate zone	**kWh**	9406 / 12562	18854 / 25178	28316 / 38081	37765 / 50814
Level of sound power L_{WA}, indoor	**dB**	-	-	-	-
Rated heating capacity Pdesignh, colder climate zone	**kW**	31 / 31	62 / 62	94 / 93	125 / 125
Rated heating capacity Pdesignh, warmer climate zone	**kW**	32 / 32	64 / 64	97 / 96	129 / 128
Seasonal space heating energy efficiency ηs, colder climate zone	**%**	193 / 150	193 / 150	193 / 149	193 / 149
Seasonal space heating energy efficiency ηs, warmer climate zone	**%**	303 / 216	302 / 216	302 / 216	302 / 216
Annual energy consumption, colder climate zone	**kWh**	15514 / 20008	31386 / 40095	47153 / 60264	62827 / 81016
Annual energy consumption, warmer climate zone	**kWh**	5632 / 7796	11359 / 15635	16924 / 23466	22623 / 31288
Level of sound power L_{WA}, outdoor	**dB**	49 / 50	52 / 53	54 / 55	55 / 56
SEASONAL ENERGY EFFICIENCY FOR HEATING ACCORDING TO DIRECTIVE (EU) 811/2013 – DATA SHEET FOR COMPLETE SPATIAL HEATERS					
Controller model		KSM	KSM	KSM	KSM
Temperature mode	**°C**	35/55	35/55	35/55	35/55
Class of controller for adjusting temperature		VI	VI	VI	VI
Temperature controller's contribution to seasonal efficiency	**%**	4,0	4,0	4,0	4,0
Seasonal energy efficiency class for packages of space heaters		A+++ / A+++	A+++ / A+++	A+++ / A+++	A+++ / A+++
Seasonal space heating energy efficiency ηs for packages of space heater, average climate zone	**%**	234 / 175	233 / 175	233 / 175	233 / 175
Seasonal space heating energy efficiency ηs for packages of space heater, colder climate zone	**%**	197 / 154	197 / 154	197 / 153	197 / 153
Seasonal space heating energy efficiency ηs for packages of space heater, warmer climate zone	**%**	307 / 220	306 / 220	306 / 220	306 / 220
SEASONAL HEATING PERFORMANCE ACCORDING TO STANDARD EN 14825					
Rated heating capacity $P_{designh}$ 35 °C / 55 °C – average climate zone	**kW / kW**	27 / 27	53 / 53	80 / 80	106 / 106
SCOP, 35 °C/55 °C – average climate zone		5,82 / 4,36	5,81 / 4,35	5,80 / 4,34	5,80 / 4,34
Rated heating capacity $P_{designh}$ 35 °C / 55 °C – warmer climate zone	**kW / kW**	32 / 32	64 / 64	97 / 96	129 / 128
SCOP, 35 °C/55 °C – warmer climate zone		7,64 / 5,48	7,62 / 5,47	7,62 / 5,47	7,62 / 5,47
Rated heating capacity $P_{designh}$ 35 °C / 55 °C – colder climate zone	**kW / kW**	31 / 31	62 / 62	94 / 93	125 / 125
SCOP, 35 °C/55 °C – colder climate zone		4,91 / 3,82	4,90 / 3,81	4,89 / 3,80	4,89 / 3,80
SEASONAL COOLING PERFORMANCE ACCORDING TO STANDARD EN 14825					
Rated cooling capacity $P_{designh}$ 7°C / 18°C	**kW / kW**	30 / 30	61 / 60	91 / 90	121 / 120
SEER, 7°C / 18°C		5,43 / 8,01	5,41 / 8,00	5,41 / 7,98	5,41 / 7,98

DEVICE	Unit	ADAPT^{MAX} 10035	ADAPT^{MAX} 10070	ADAPT^{MAX} 10105	ADAPT^{MAX} 10140
ELECTRICAL DATA*					
ELECTRICAL DATA					
Rated voltage	**v/Hz**	3N~ 400; 50	3N~ 400; 50	3N~ 400; 50	3N~ 400; 50
Max. operation current	**A**	24,9	49,8	74,7	99,6
Max. electrical power	**kW**	16,4	32,8	49,2	56,6
Fuses	**A**	3 x 25	3 x 50	3 x 80	3 x 100
Electrical power cable**	**mm²**	5 x 6 (H05VV-F)	5 x 16 (Copper)	5 x 25 (Copper)	5 x 35 (Copper)
COMMUNICATION					
Connection between outdoor and indoor unit		FTP 5e cable / 2x2x0.6 mm² (LiYCY)	2x FTP 5e cable / 2x2x0.6 mm² (LiYCY)	3x FTP 5e cable / 2x2x0.6 mm² (LiYCY)	4x FTP 5e kabel / 2x2x0,6 mm² (LiYCY)
COOLING SYSTEM					
Refrigerant - type		R290	R290	R290	R290
Refrigerant - industrial designation		HC-290 (R290)	HC-290 (R290)	HC-290 (R290)	HC-290 (R290)
GWP (global warming potential) refrigerants		0,02	2x 0,02	3x 0,02	4x 0,02
Total CO_2 equivalent of charged refrigerant		0,075	2 x 0,075	3 x 0,075	4 x 0,075
Refrigerant - quantity	**kg**	3,75	2 x 3,75	3 x 3,75	4 x 3,75
Max. refrigerant system operating pressure	**MPa**	3,2	3,2	3,2	3,2
PRIMARY SIDE (HEAT SOURCE) – AIR					
Air flow	**m³/h**	up to 12.000	up to 24.000	up to 36.000	up to 48.000
SECONDARY SIDE (HEAT SINK) – WATER					
BUILT-IN CIRCULATION PUMP					
Rated flow at maximum heating capacity and ΔT 5K according to standard EN 14511	**m³/h**	6,1	12,2	18,3	24,4
Max. available external pressure drop at nominal water flow	**kPa**	60	50	50	50
HEATING					
Operating envelope - min. / max. air temperature	**°C**	-25 / 40	-25 / 40	-25 / 40	-25 / 40
Operating envelope - min. / max. water temperature	**°C**	15 / 75	15 / 75	15 / 75	15 / 75
COOLING					
Operating envelope - min. / max. air temperature	**°C**	5 / 45	5 / 45	5 / 45	5 / 45
Operating envelope - min. / max. water temperature	**°C**	7 / 25	7 / 25	7 / 25	7 / 25
DIMENSIONS AND MASS - TRANSPORT					
Dimensions (W x H x D)	**mm**	1670 x 1752 x 1100	3406 x 1715 x 1059	5036 x 1715 x 1059	6666 x 1715 x 1059
Mass	**kg**	538	1315	1919	2523
DIMENSIONS AND MASS - NET					
Dimensions (W x H x D)	**mm**	1575 x 1575 x 960	3375 x 1683 x 960	5000 x 1683 x 960	6625 x 1683 x 960
Mass	**kg**	500	1300	1900	2500

* For the system's connection power, power cables, and fuse dimensions, see the instructions on preparing for installation.
** Installation method C, table A.52.4 of IEC 60364-5-52

DEVICE		WR KSM 2	WR KSM+	WR KSM C
ELECTRICAL DATA *				
Rated voltage; Frequency	**V/Hz**	~ 230; 50	~ 230; 50	~ 230; 50
Max. operating current	**A**	2,2	2,2	2,2
Max. electric power	**kW**	0,5	0,5	0,5
Fuses	**A**	1 x C10	1 x C10	1 x C10
Power cable		3 x 1,5	3 x 1,5	3 x 1,5
Type of power cable		H05VV-F	H05VV-F	H05VV-F
**For system Max. power, power cables and fuse dimensions, see Installation guidelines*				
DIMENSIONS AND WEIGHT – TRANSPORT				
Dimensions (W x H x D)	**mm**	420 X 370 X 120	220 X 370 X 120	220 X 370 X 120
Weight	**kg**	5	2,5	2,8
DIMENSIONS AND WEIGHT – NET				
Dimensions (W x H x D)	**mm**	400 X 350 X 90	200 X 350 X 90	200 X 350 X 90
Weight	**kg**	4,3	2,3	2,6
COMMUNICATION				
Connection between heat pump and wall controller		FTP 5e cable / 2x2x0.6 mm2 (LiYCY)	FTP 5e cable / 2x2x0.6 mm2 (LiYCY)	FTP 5e cable / 2x2x0.6 mm2 (LiYCY)
Connection to BMS		MODBUS protocol (UTP cable connection RJ45) – RS485	MODBUS protocol (UTP cable connection RJ45) – RS485	MODBUS protocol (UTP cable connection RJ45) – RS485
Connection to the internet		UTP cable – connection RJ45 – Ethernet	UTP cable – connection RJ45 – Ethernet	UTP cable – connection RJ45 – Ethernet

DEVICE		WR KSM MAX 10070	WR KSM MAX 10105	WR KSM MAX 10140
ELECTRICAL DATA *				
Electrical data	**V/Hz**	~230; 50	~230; 50	~230; 50
Max. operating current	**A**	2,2	2,2	2,2
Max electric power	**kW**	0,5	0,5	0,5
Fuses	**A**	1 x C10	1 x C10	1 x C10
Power cable		3 x 1,5	3 x 1,5	3 x 1,5
Type of power cable		H05VV-F	H05VV-F	H05VV-F
**For system Max. power, power cables and fuse dimensions, see installation guidelines.*				
DIMENSIONS AND WEIGHT – TRANSPORT				
Dimensions (W x H x D)	**mm**	600 x 700 x 120	600 x 700 x 120	600 x 700 x 120
Weight	**kg**	9	10,3	11,5
DIMENSIONS AND WEIGHT – NET				
Dimensions (W x H x D)	**mm**	400 x 685 x 90	400 x 685 x 90	400 x 685 x 90
Weight	**kg**	7	8,3	9,5
COMMUNICATION				
Connection between heat pump and wall controller		2 x FTP 5e cable / 2x2x0,6 mm2 (LiYCY)	3 x FTP 5e cable / 2x2x0,6 mm2 (LiYCY)	4 x FTP 5e cable / 2x2x0,6 mm2 (LiYCY)
Connection to BMS		MODBUS protocol (UTP cable connection RJ45) - RS485	MODBUS protocol (UTP cable connection RJ45) - RS485	MODBUS protocol (UTP cable connection RJ45) - RS485
Connection to the internet		UTP cable - connection RJ45 - ETHERNET	UTP cable - connection RJ45 - ETHERNET	UTP cable - connection RJ45 - ETHERNET

DEVICE	Unit	ADAPT^{MAX} 10035	ADAPT^{MAX} 10070	ADAPT^{MAX} 10105	ADAPT^{MAX} 10140
SOUND ACCORDING TO EN 12102 AT THE CONDITION OF A7W35					
THE DECLARED SOUND POWER ON THE ECOLABEL ENERGY LABEL					
Sound power	**dB (A)**	49	52	54	55
Sound pressure level at the distance of 1 m	**dB (A)**	41	44	46	47
Sound pressure level at the distance of 5 m	**dB (A)**	27	30	32	33
Sound pressure level at the distance of 10 m	**dB (A)**	21	24	26	27
SOUND POWER AT STANDARD RATED CONDITION A7W35					
Sound power	**dB (A)**	68	71	73	74
Sound pressure level at the distance of 1 m	**dB (A)**	60	63	65	66
Sound pressure level at the distance of 5 m	**dB (A)**	46	49	51	52
Sound pressure level at the distance of 10 m	**dB (A)**	40	43	45	46
MAXIMUM SOUND POWER					
Sound power	**dB (A)**	72	75	77	78
Sound pressure level at the distance of 1 m	**dB (A)**	64	67	69	70
Sound pressure level at the distance of 5 m	**dB (A)**	50	53	55	56
Sound pressure level at the distance of 10 mx	**dB (A)**	44	47	49	50
MINIMUM SOUND POWER					
Sound power	**dB (A)**	49	52	53	55
Sound pressure level at the distance of 1 m	**dB (A)**	41	44	46	47
Sound pressure level at the distance of 5 m	**dB (A)**	27	30	32	33
Sound pressure level at the distance of 10 m	**dB (A)**	21	24	26	27
MAXIMUM SOUND POWER IN SILENT MODE					
Sound power	**dB (A)**	61	64	66	67
Sound pressure level at the distance of 1 m	**dB (A)**	53	56	58	59
Sound pressure level at the distance of 5 m	**dB (A)**	39	42	44	45
Sound pressure level at the distance of 10 m	**dB (A)**	33	36	38	39

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