KRONOTERM 1976

HEAT PUMPS

DATA SHEET

VERSI

Heat pump

Data sheet – VERSI/98-21-36-11889-04

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DESCRIPTION

The VERSI family of heat pumps is the perfect solution for buildings with low heating requirements, for new buildings, and for owners of single floors in multi-family residentials. They work great with in-floor heating and radiators, and can also heat DHW. All models in the VERSI line are distinguished by quiet operation, incredible efficiency, cutting-edge technology, and a compact and beautifully designed shape.

Three models are available, all of which are extremely flexible in installation and use. Depending on the model, in addition to traditional installation they can also be mounted inside (e.g. basement, attic), or even on the balcony. VERSI heat pumps are the perfect system, adjustable in terms of cooling and hydraulics, with 2 to 6 kW of heating capacity, and requiring a negligible amount of space.

VERSI O (outdoor installation)

VERSI-O heat pump can be installed right against the wall, without limiting the build space impact. Since it is available in 4 color combinations (NERO, OLIO, ANTHRACITE, NEBBIA), as well as in CORTEN and INOX versions, you can easily adjust the unit to with the surroundings. Matches with the HYDRO C2, HYDRO S2, or WR KSM 2, it makes for the ultimate heating solution.

VERSI I (indoor installation)

A huge benefit is the simple installation within your house or building, as well as the built-in hydromodule. Indoor installation means there is no need for digging a hole outside, foundations, or external pipes for water. This also makes installation faster, and obviates worry about noise pollution or pipes potentially freezing. The VERSI-I comes in minimalistic white. It is installed right along the wall, with air intake and exhaust through specially insulated air ducts.

VERSI X (indoor or outdoor installation)

The VERSI-X is distinguished by the possibility of both indoor and outdoor configurations. It is installed right against the wall, and for the user's comfort in balcony configurations, directable air ducts for capture and exhaust make it even more modular. Matches with the HYDRO C2, HYDRO S2, or WR KSM 2, it makes for the ultimate heating solution. The heat pump also allows for 2 identical units to be linked in cascade, doubling your heating capacity.

USAGE

Heating, cooling, and preparing domestic hot water.

TECHNOLOGY

NMS™ – the Noise Management System – combines a large evaporator with minimal air resistance, a large variable-speed fan, special materials to dampen noise and vibration, premium construction, and a specially developed control logic to reduce noise to incredibly low levels.

IAH™ – Intelligent Adaptive Heating – completely adjusts your heat pump's output based on the building's requirements. Special control algorithms modify the temperature of the water in the heating system per the desired room temperature and the current weather outdoor. The building's response dictates at what capacity the VERSI heat pump needs to work. This unrivaled flexibility means that your heat pump works constantly, silently, and – most importantly – comfortable.

CDHRS™ - Compresor Drive Heat Recovery System – a specially designed system of cooling and recuperating waste heat from the compressor's electric motor allows for 96% efficiency.

ECL™ - Enhanced Compressor Lifetime - this advanced oil recovery system ensures that the heat pump retains lubricant in its compressor, where it is most important. At the same time the compressor range monitoring and protection system constantly keeps the system within safe parameters.

Low GWP – Global Warming Potential – the line of appliances uses the advanced refrigerant R452B, which significantly reduces greenhouse gas emissions. This refrigerant has a whopping 67 % less GWP than the traditional refrigerants used in heat pumps.

CMS™ – The Cascade Management System gives you control and management of all heat pumps connected in the cascade solution via a single interface.

NOMENCLATURE

VERSI-I 0209 K1 HT/HK 3F	
VERSI	The name for a line of heat pumps
I	Indoor installation, integrated elements from the hydraulic unit
X	Indoor or external installation
O	Outdoor installation
0209	Heating capacity from 2 to 6 kW
K	Model with a hydraulic connection
1	Device generation
HT	Outlet pipe temperature up to 67 °C
HK	Heating and cooling
1F/UF	Single-phase connection 1 x 230 V UF – single-phase connection 1 x 230 V or three-phase 3 x 400 V

HYDRO C2	
HYDRO	The name for a line of indoor hydraulic units
C	Hydraulic unit with integrated DHW tank
S	Basic, wall-mounted hydro module
2	Device generation

WR KSM 2	
WR	The name for a line of indoor wall-mounted controllers
KSM	Basic controller
KSM+	Expansion controller
KSM C	Controller for connecting a heat pump in cascade

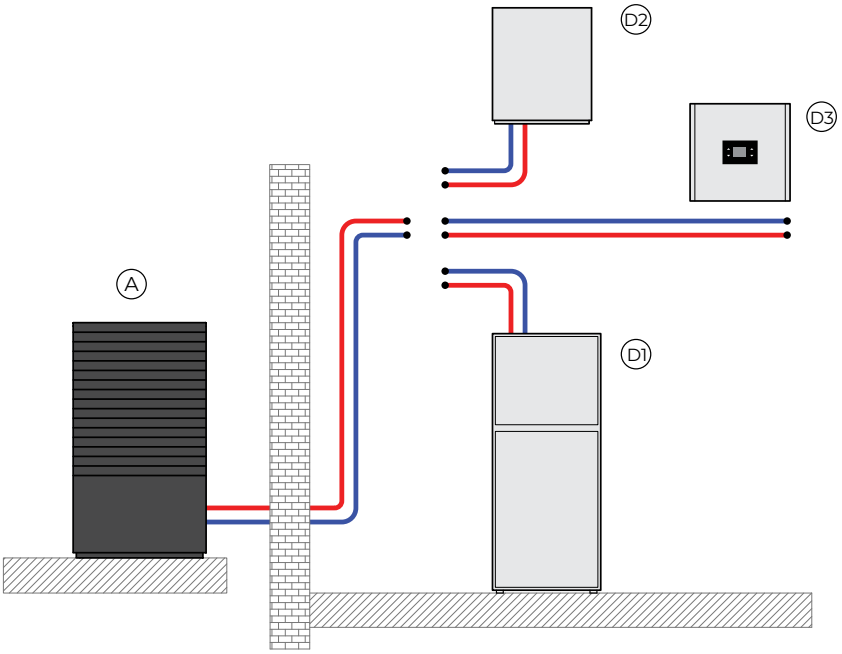
A Heat pump VERSI-O
B Heat pump VERSI-X
C Heat pump VERSI-I
D1 Hydraulic unit HYDRO C2
D2 Hydraulic unit HYDRO S2
D3 Wall controller WR KSM 2

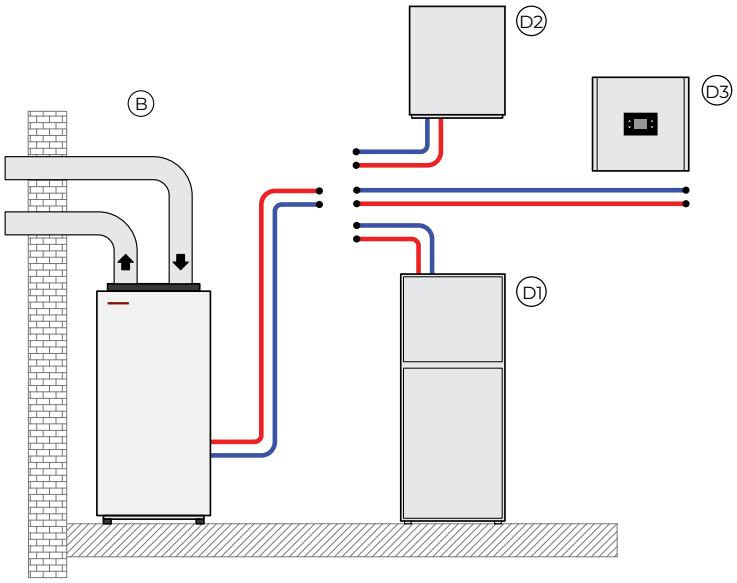
Ⓐ Ⓑ Ⓒ Ⓓ1 Ⓓ2 Ⓓ3

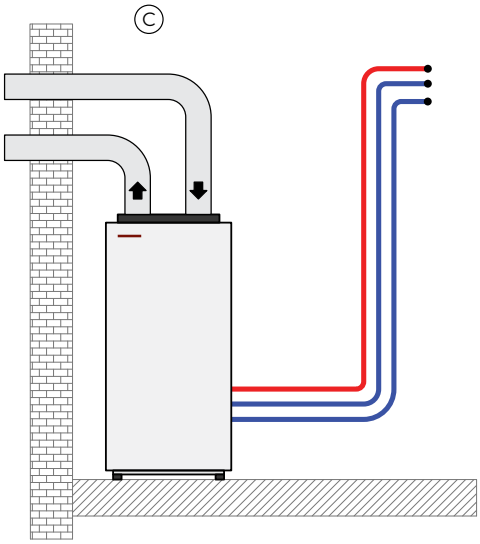
CONFIGURATION

The VERSI-O and VERSI-X are installed together with a HYDRO C2, HYDRO S2, WR KSM 2 indoor units.

VERSI-I heat pumps incorporate all necessary heating system elements in one, combining with a DHW tank and buffer tank, etc.







A VERSI-O heat pump
B VERSI-X heat pump
C VERSI-I heat pump
D1 HYDRO C2 compact hydraulic indoor unit
D2 HYDRO S2 hydraulic indoor wall unit
D3 WR KSM 2 wall controller

VERSI-O HEAT PUMP

Version

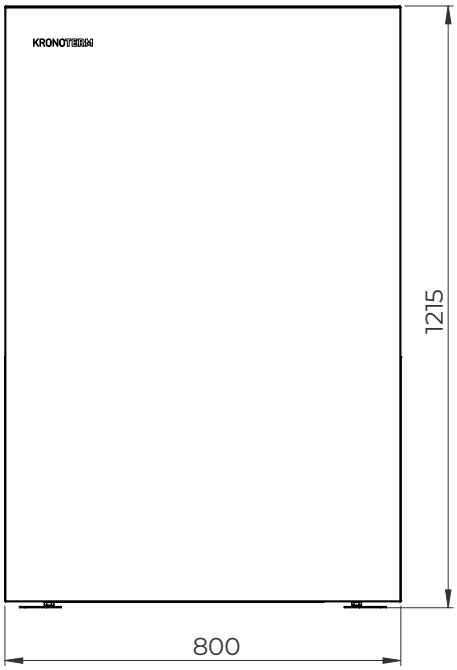
A compact air/water heat pump for outdoor installation

Model

VERSI-O 0209-K1 HT / HK 1F

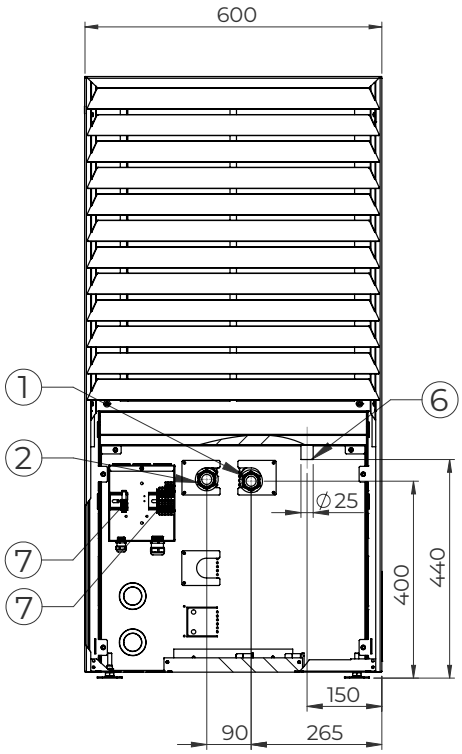
Description and dimensions

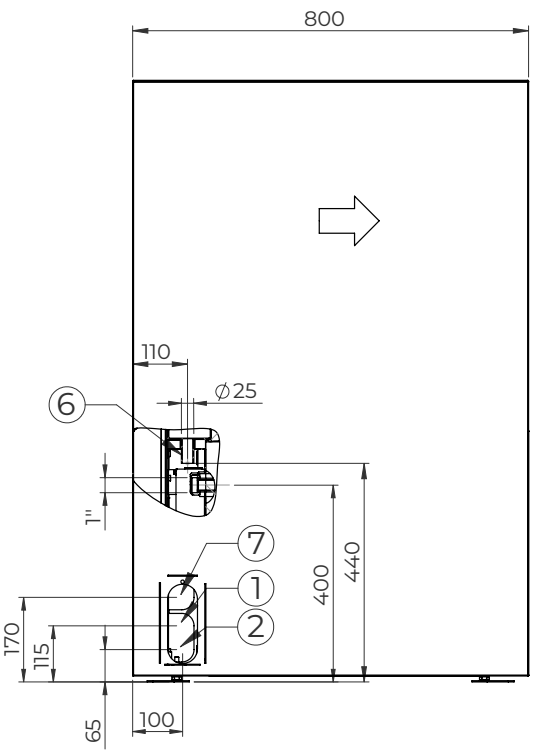
- Powder coated, zinced, steel plate housing
- Available in the colors NERO, OLIO, NEBBIA, and ANTHRACITE, or optionally with INOX or CORTEN sheet metal
- Evaporator and fan protected against the weather
- Adjustable heat output
- Adaptive control of heat capacity
- Integrated circulation pump
- Integrated flow switch
- Special acoustically insulated housing
- Special vibration dampening and control



Legend

1	Heating/cooling/heating DHW – outlet pipe – G 1" IT
2	Heating/cooling/heating DHW – inlet pipe – G 1" IT
6	Connection for pipe for condensate drain ø 25
7	Electrical connection

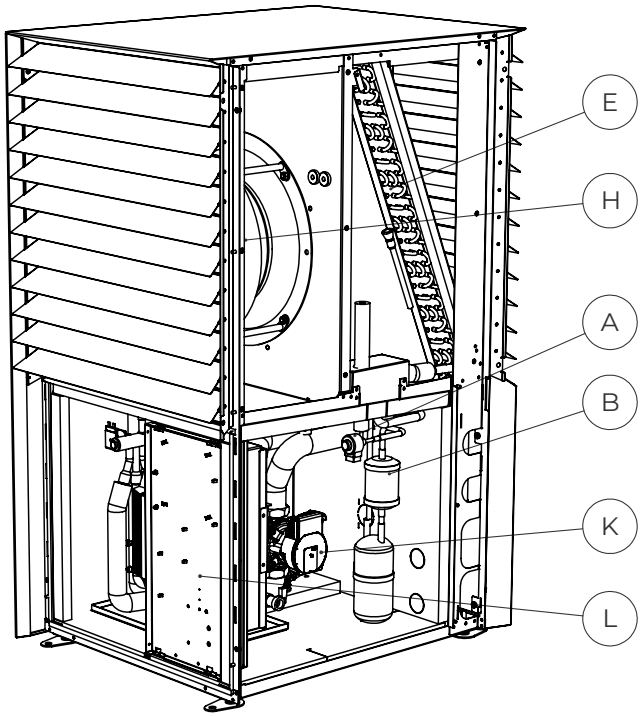


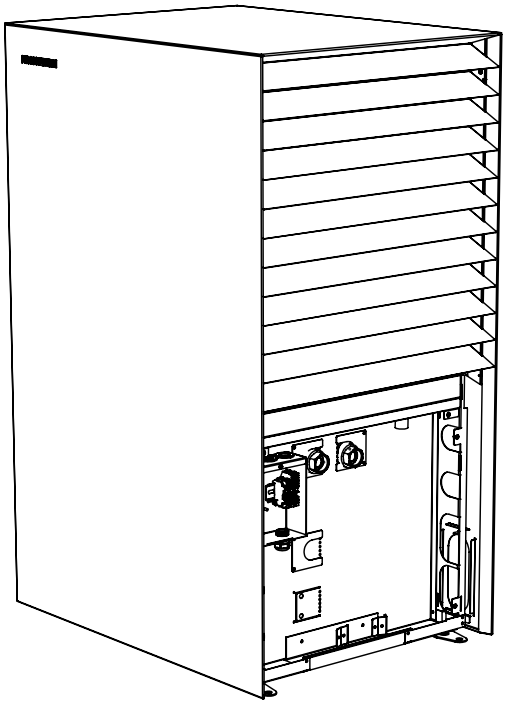


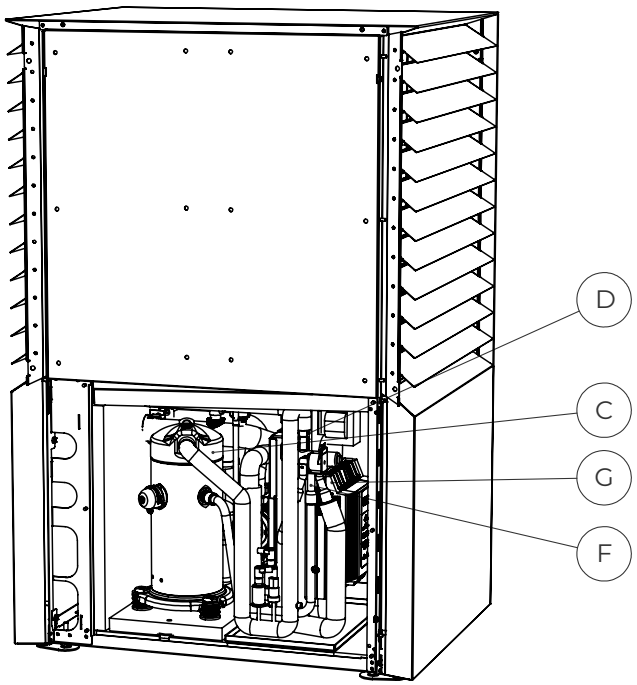
VERSI-O HEAT PUMP

Primary components

- **A** Electronic expansion valve
- **B** Filter – dehydrator
- **C** Compressor
- **D** Condenser
- **E** Evaporator
- **F** 4-way valve
- **G** Compressor drive
- **H** Fan
- **K** EC circulation pump
- **L** Electrical box







VERSI-I HEAT PUMP

Version

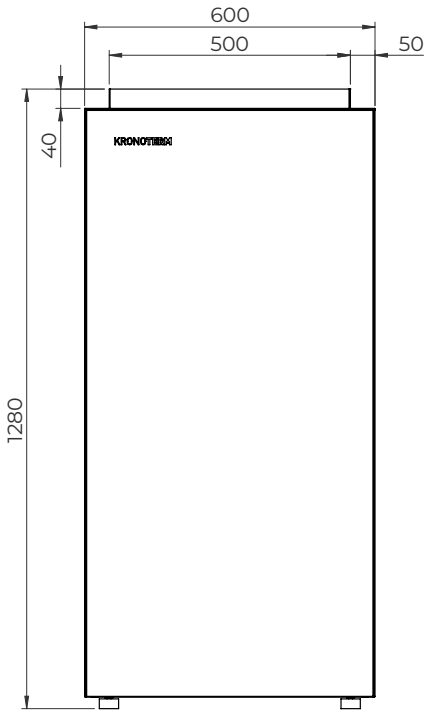
A compact air/water heat pump meant for indoor installation with an integrated control and the essential elements of a heating system

Model

VERSI-I 0209-K1 HT / HK UF E

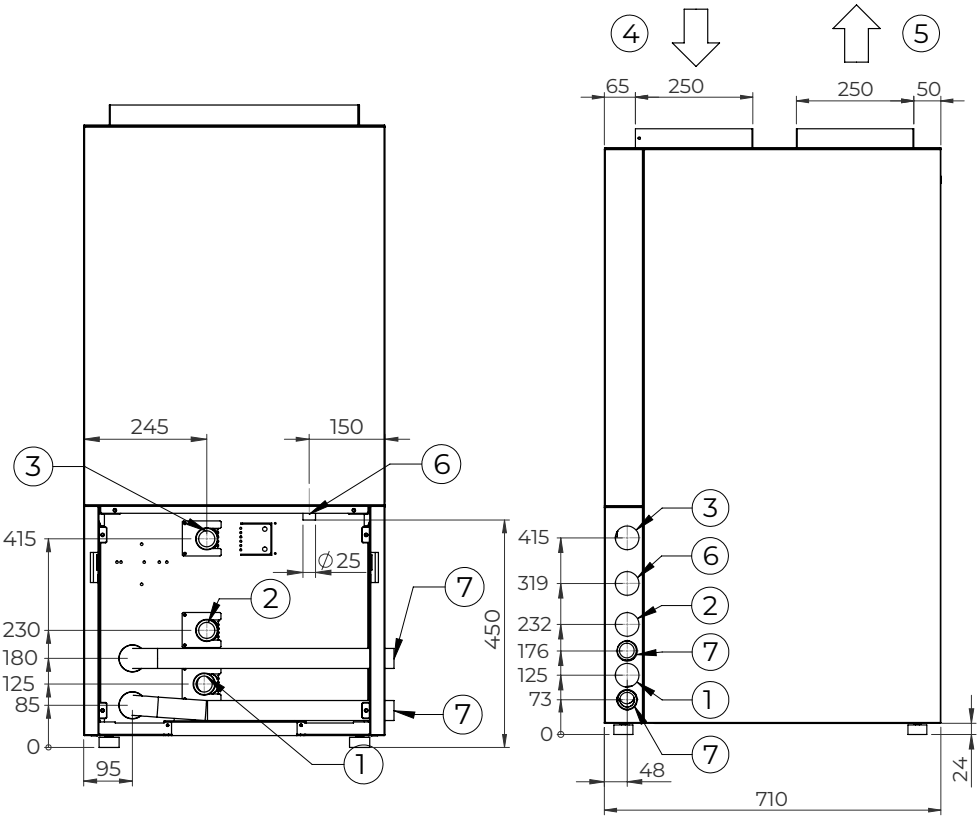
Description and dimensions

- Powder coated, zinced, steel plate housing
- Available in white
- Connection to air ducts
- Adjustable heat output
- Adaptive control of heat capacity
- Integrated circulation pump
- Integrated 4 kW electrical heater (2 x 2 kW)
- Integrated 3-way zone valve for switching between heating/cooling and heating DHW
- Integrated flow sensor
- Integrated heating system pressure sensor
- Integrated KSM regulator and WEB module
- Special soundally insulated housing
- Special vibration dampening and control



Legend

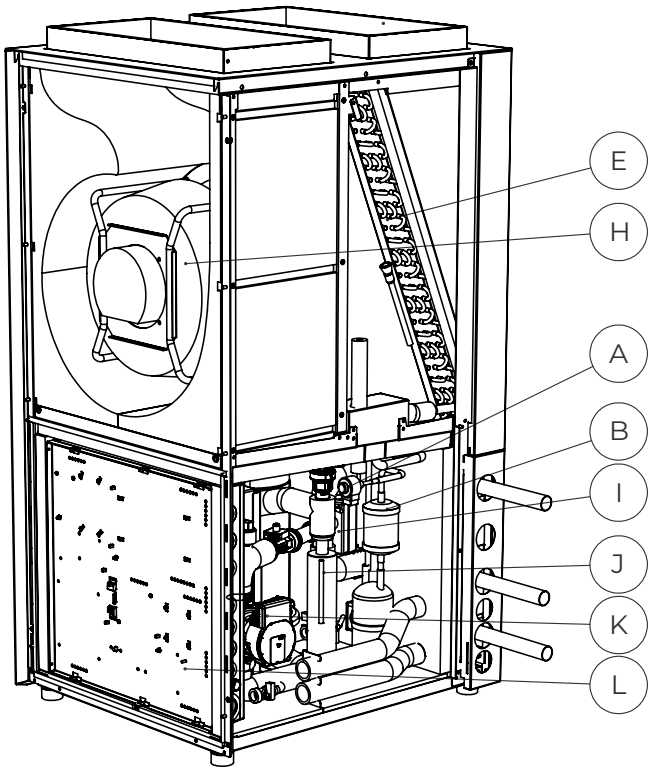
1	Heating/cooling/heating DHW – copper outlet pipe – ø28
2	Heating/cooling – copper inlet pipe ø28.
3	Heating DHW – copper inlet pipe ø28
4	Inlet air
5	Outlet air
6	Connection for condensate drain ø25
7	Conduits for electric cables

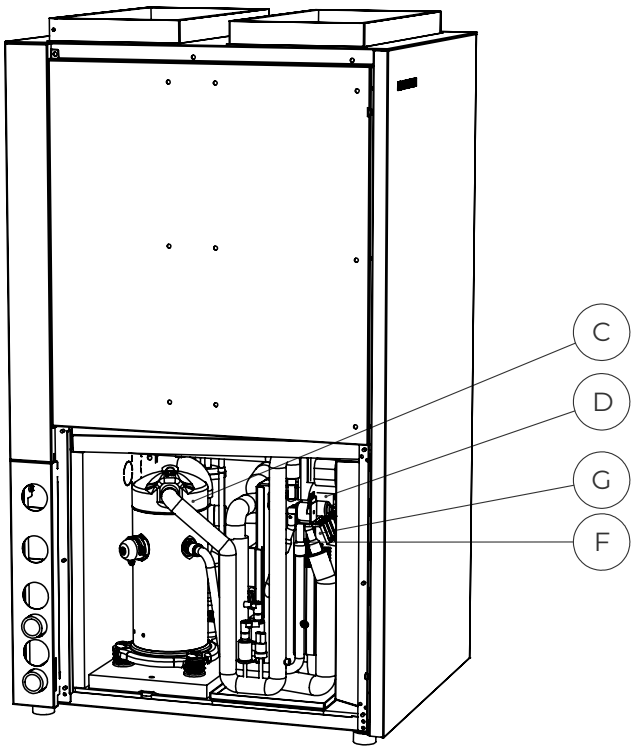


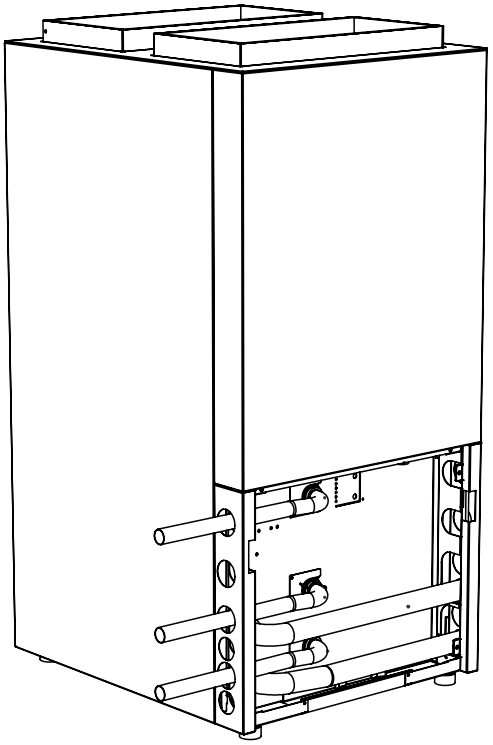
VERSI-I HEAT PUMP

Primary components

- **A** Electronic expansion valve
- **B** Filter – dehydrator
- **C** Compressor
- **D** Condenser
- **E** Evaporator
- **F** 4-way valve
- **G** Compressor drive
- **H** Fan
- **I** 3-way valve
- **J** Electric heater
- **K** Circulation pump
- **L** Electrical box







VERSI-X HEAT PUMP

Version

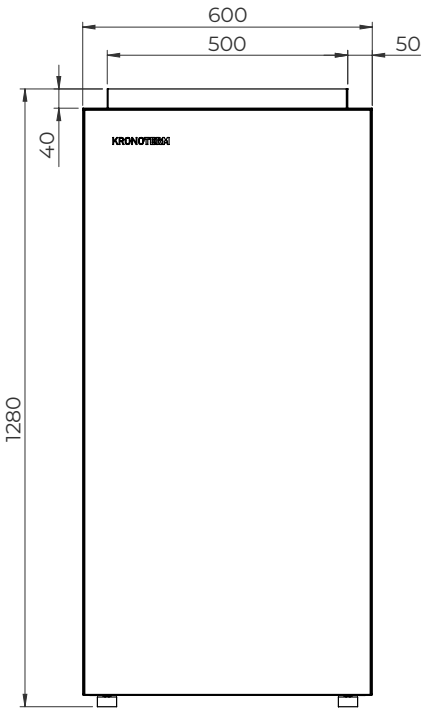
A compact air/water heat pump for indoor and outdoor installation, as well as for cascade.

Model

VERSI-X 0209-K1 HT / HK 1F

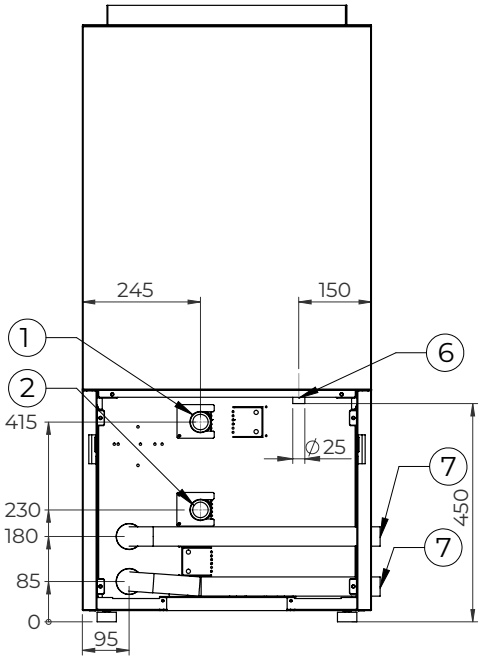
Description and dimensions

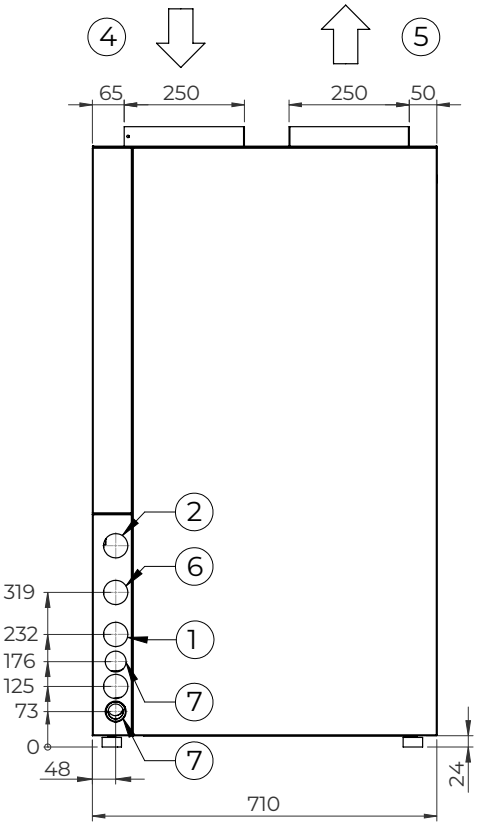
- Powder coated, zinced, steel plate housing
- Available in white
- Connection to air ducts
- Adjustable heat output
- Adaptive control of heat capacity
- Integrated circulation pump
- Integrated flow switch
- Special soundally insulated housing
- Special vibration dampening and control



Legend

1	Heating/cooling/heating DHW – copper outlet - ø28
2	Heating DHW – copper inlet pipe – ø28
3	/
4	Inlet air
5	Outlet air
6	Condensate drain ø25
7	Cable conduit

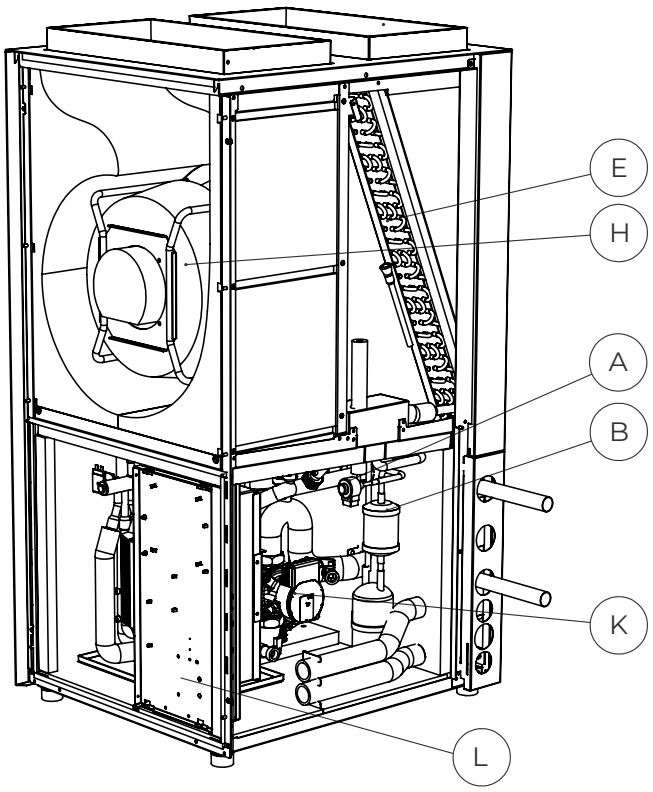


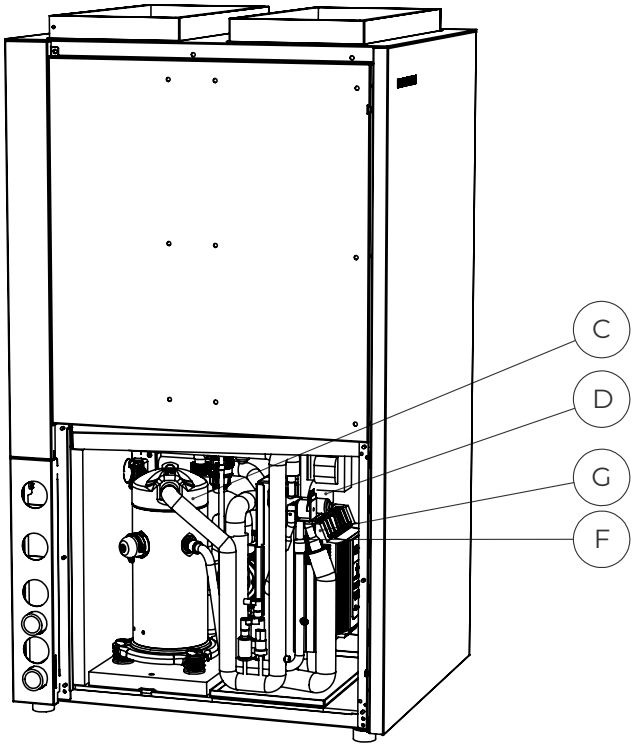


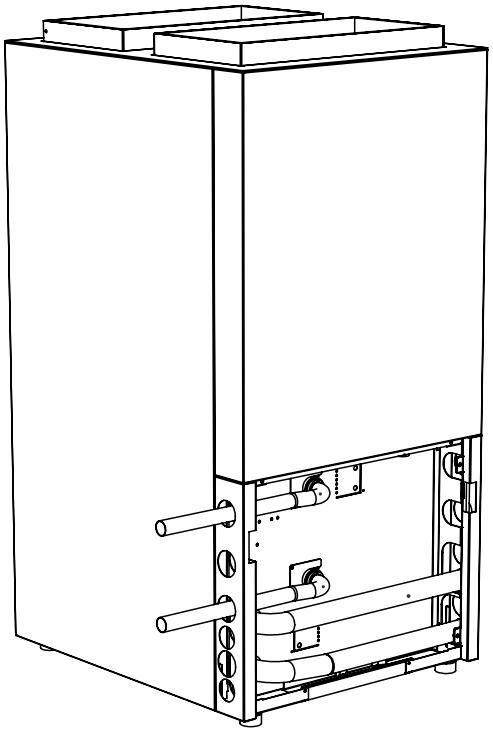
VERSI-X HEAT PUMP

Primary components

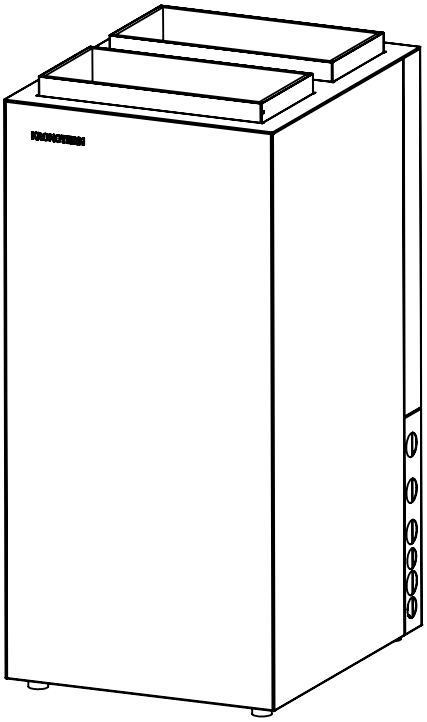
- **A** Electronic expansion valve
- **B** Filter – dehydrator
- **C** Compressor
- **D** Condenser
- **E** Evaporator
- **F** 4-way valve
- **G** Compressor drive
- **H** Fan
- **K** Circulation pump
- **L** Electrical box



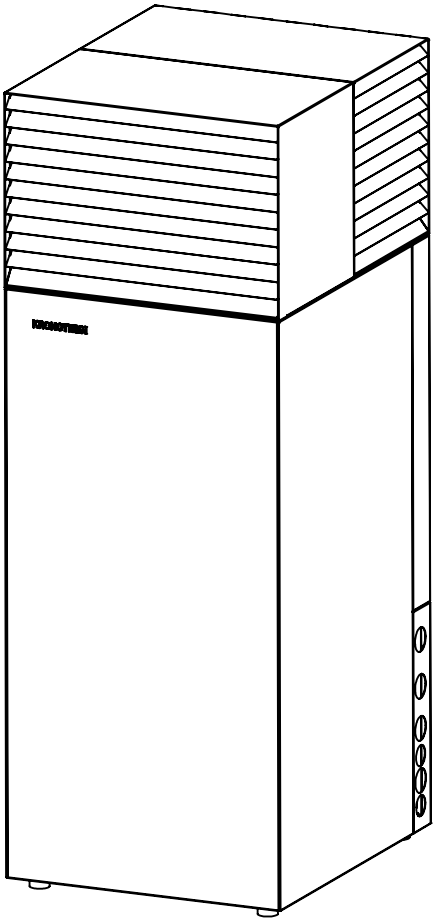




Configuration of VERSI-X indoor unit and modular air deflector.



VERSI-X
Basic version



VERSI-X + MAD
Version with modular air deflector

HYDRO C2 COMPACT HYDRAULIC INDOOR UNIT

Version

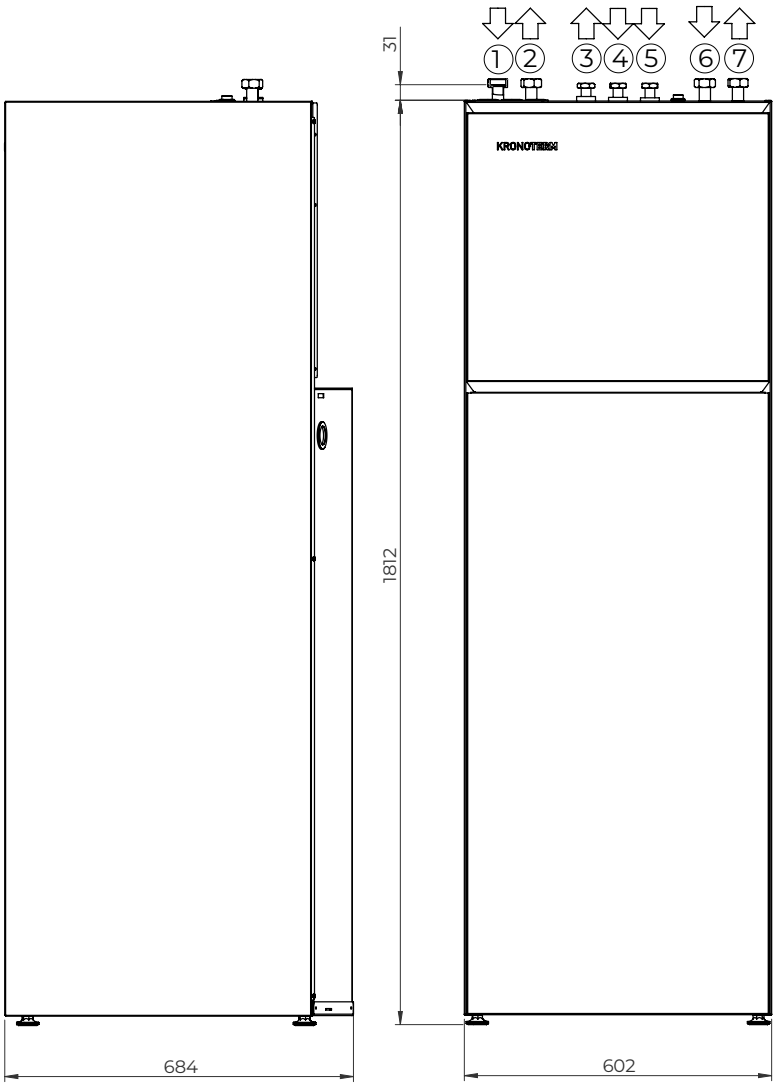
Indoor unit with DHW tank

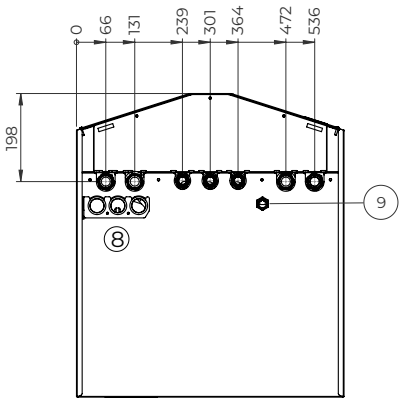
Model

HYDRO C2

Description and dimensions

- Powder coated, zinced, steel plate housing
- Both heating and cooling functions
- Integrated 3-way valve for switching between heating and heating DHW
- Integrated 6 kW electrical heater (3 x 2 kW)
- Integrated KSM regulator and WEB module
- Option of installing expansion module KSM+ 2
- Integrated magnetic dirt separator
- Integrated heating system pressure sensor
- Integrated flow sensor
- Integrated safety valve for DHW
- Integrated safety valve for heating system
- Integrated DHW expansion vessel
- Integrated heating system expansion vessel
- Integrated 200 l DHW tank
- Optional additional 40 l buffer tank
- Optional additional kit for remote filling of heating system





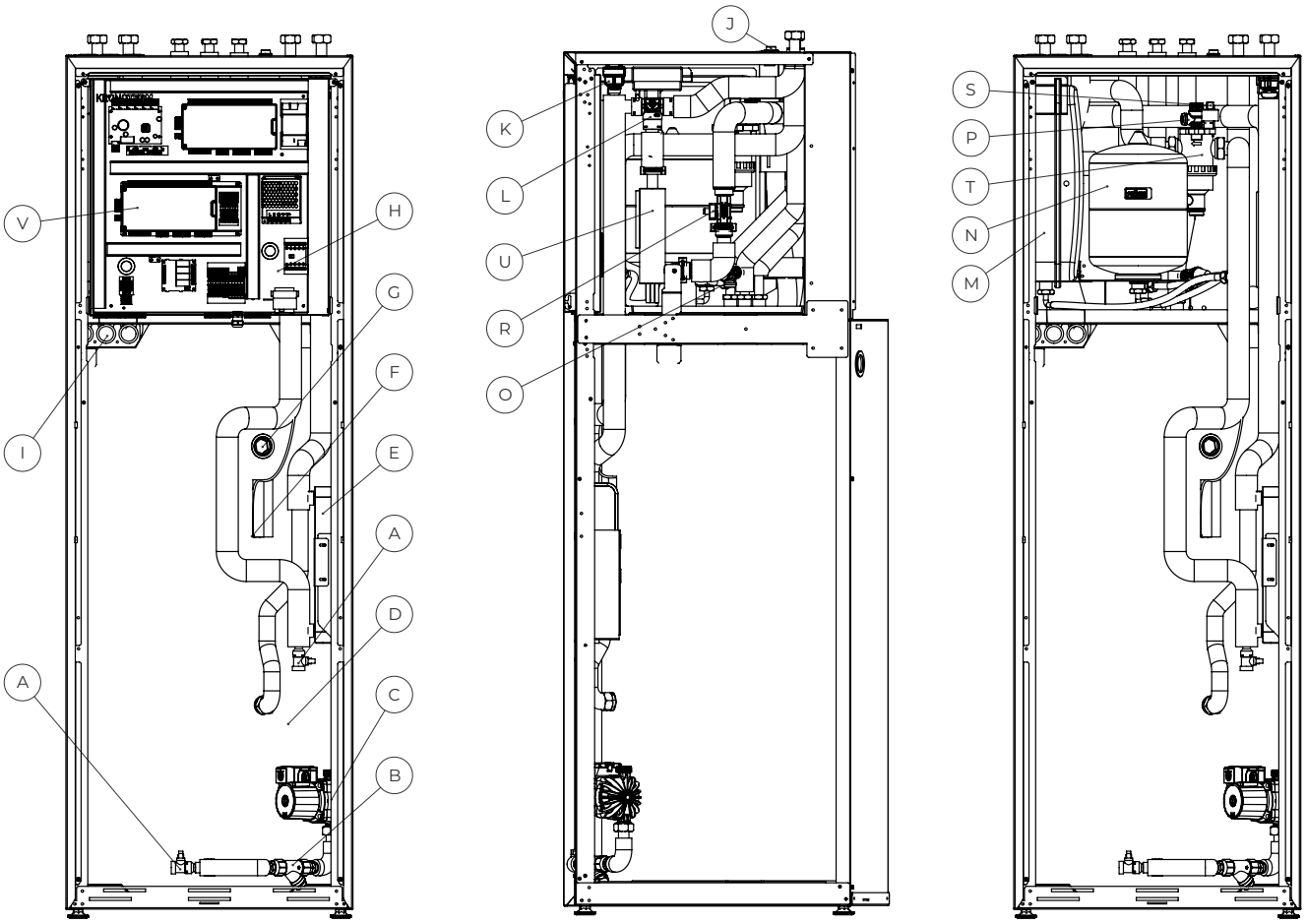
Legend

1 Inlet G 1'' IT
2 Outlet G 1'' IT
3 DHW G 3/4'' IT
4 Cold tap water G 3/4'' IT
5 Circulating DHW G 3/4'' IT
6 Heating/cooling – inlet pipe – G 1'' IT
7 Heating/cooling – outlet pipe – G 1'' IT
8 Electrical connection
9 Internet cable jack

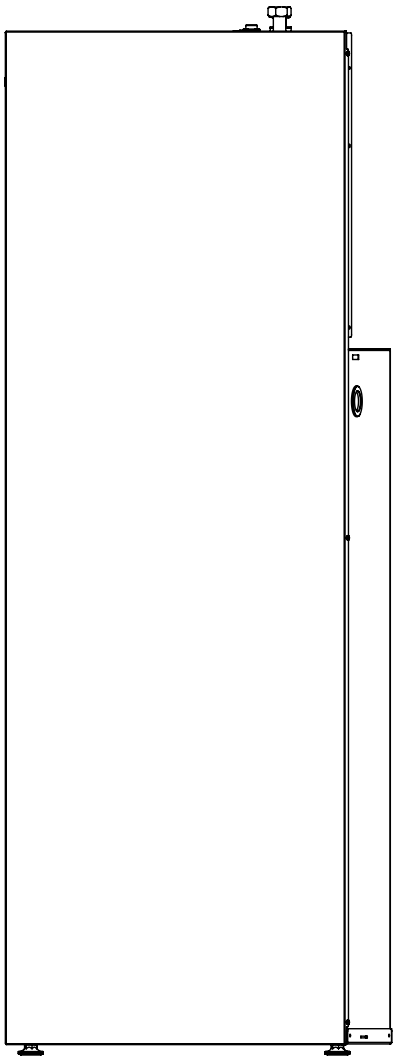
HYDRO C2 COMPACT HYDRAULIC INDOOR UNIT

Primary components

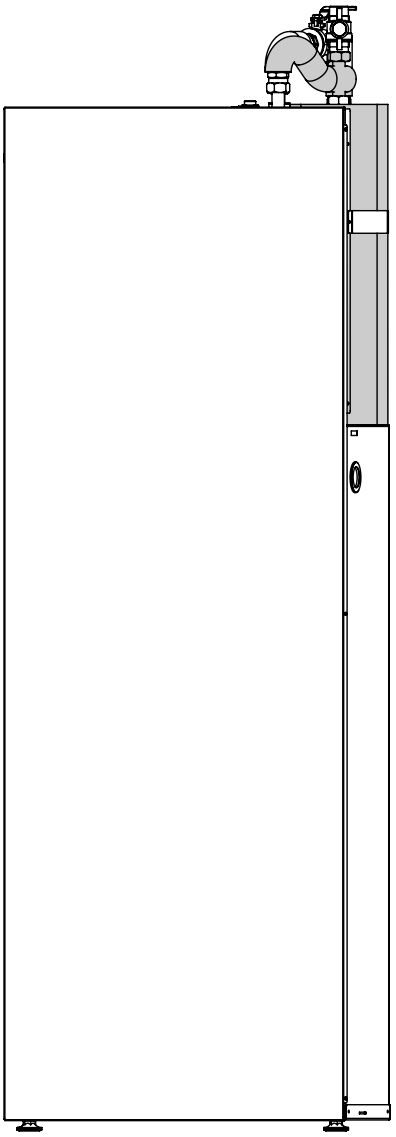
- **A** Exhaust valve
- **B** DHW filter
- **C** Flow pump for DHW
- **D** DHW tank 200l
- **E** Plate heat exchanger for DHW
- **F** DHW temperature sensor
- **G** Magnesium anode
- **H** Electrical box with KSM regulator, WEB module, and KSM+ expansion module
- **I** Conduits for electric cables
- **J** Internet cable jack
- **K** Air vent
- **L** 3-way zone valve
- **M** Expansion vessel – heating system – 12 l
- **N** Expansion vessel – DHW – 8 l
- **O** Safety valve – DHW
- **P** Safety valve – heating system
- **R** Flow sensor
- **S** Heating system pressure sensor
- **T** Magnetic dirt separator
- **U** 6 kW electric heater (3x2 kW)
- **V** Expansion module KSM+ 2



Configurations of the HYDRO C2 indoor unit



HYDRO C2



HYDRO C2 + ZA_P40

HYDRO S2 HYDRAULIC INDOOR WALL UNIT

Version

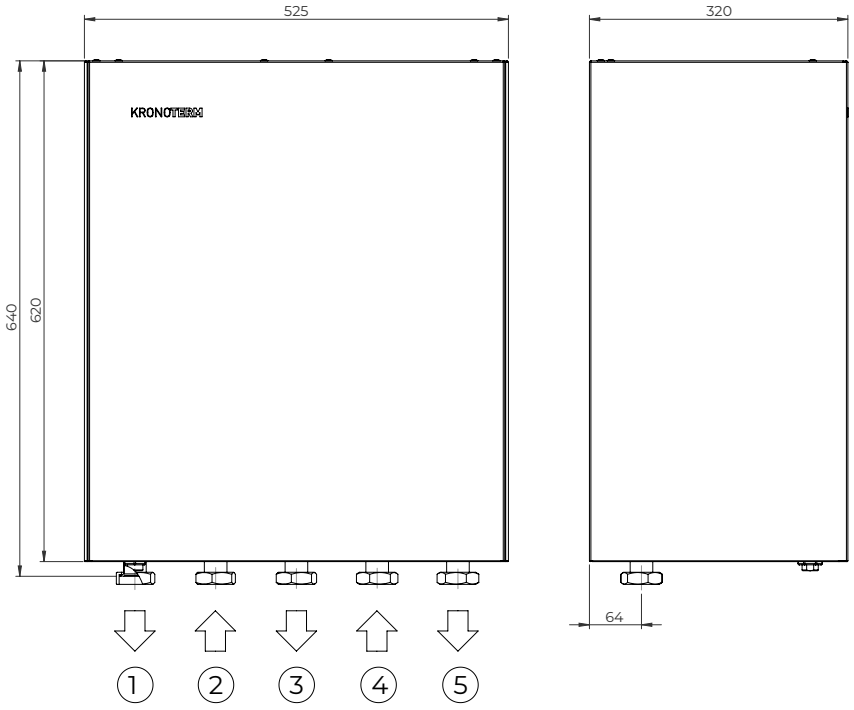
Indoor wall-mounted hydraulic unit.

Model

HYDRO S2

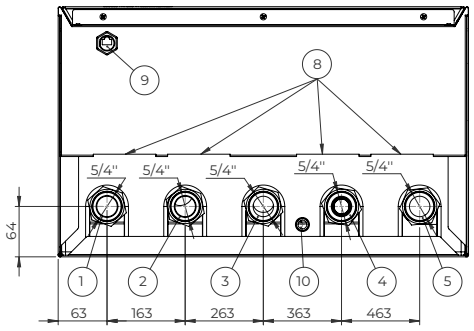
Description and dimensions

- Powder coated, zinced, steel plate housing
- Both heating and cooling
- Integrated 3-way valve for switching between heating/cooling and heating DHW
- Integrated 6 kW electrical heater (3 x 2 kW)
- Integrated KSM regulator and WEB module
- Option of installing expansion module KSM+ 2
- Integrated magnetic dirt separator
- Integrated heating system pressure sensor
- Integrated flow sensor
- Integrated safety valve for heating system
- Optional additional kit for remote filling of heating system



Legend

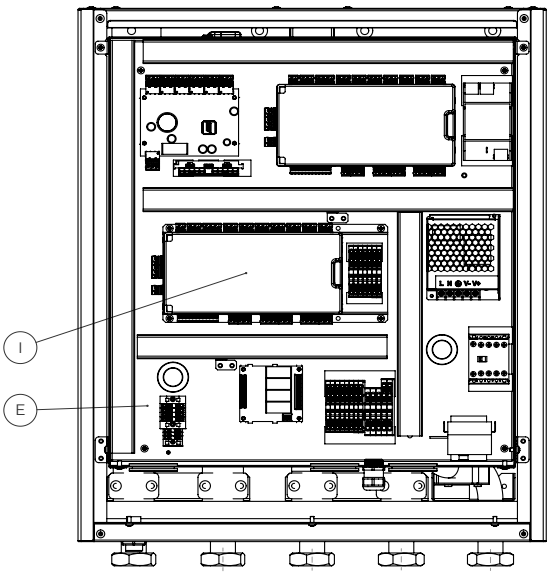
1 Outlet – G 5/4" IT
2 Inlet – G 5/4" IT
3 Heating DHW G 5/4'' IT
4 Heating/cooling/heating DHW – inlet pipe – G 5/4" IT
5 Heating/cooling – outlet pipe – G 5/4" IT
8 Cable conduit
9 Internet cable jack
10 Connection for condensate drain

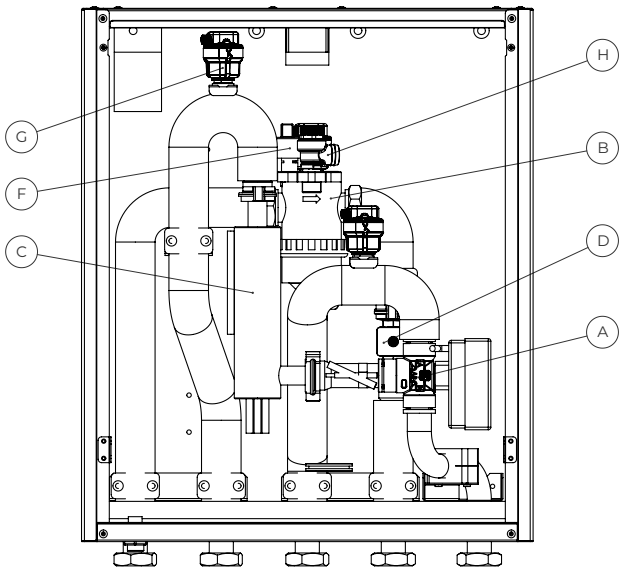


HYDRO S2 HYDRAULIC INDOOR WALL UNIT

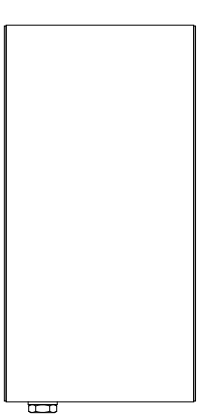
Primary components

- **A** 3-way zone valve
- **B** Magnetic dirt separator
- **C** Reserve 6 kW electrical heater (3 x 2 kW)
- **D** Flow sensor
- **E** Electrical box with KSM regulator and KSM+ expansion module
- **F** Heating system pressure sensor
- **G** Automatic air vent
- **H** Safety valve – heating system
- **I** Expansion module KSM+ 2

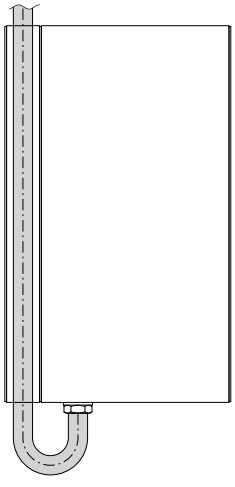




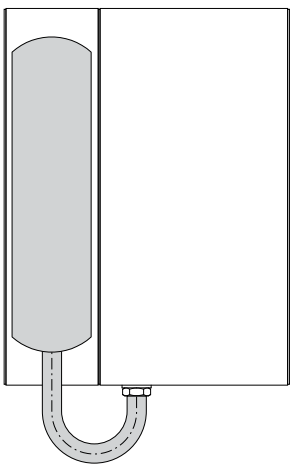
Configurations of the HYDRO S2 indoor unit



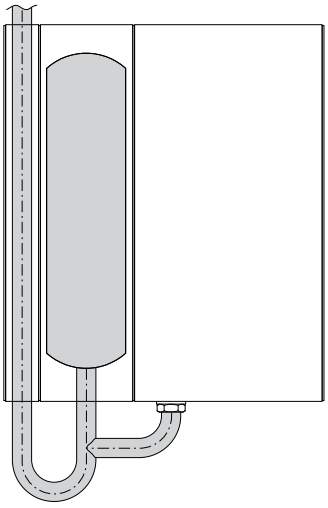
HYDRO S2
Basic model



HYDRO S2 + HYDRO A2
Basic connection with the console spacer for pipe connection



HYDRO S2 + HYDRO P2
Model with 40 l buffer tank



HYDRO S2 + HYDRO A2 + HYDRO P2
Model with 40 l buffer tank and spacer for pipe connection

WR KSM 2 WALL CONTROLLER

Version

Basic wall-mounted unit

Model

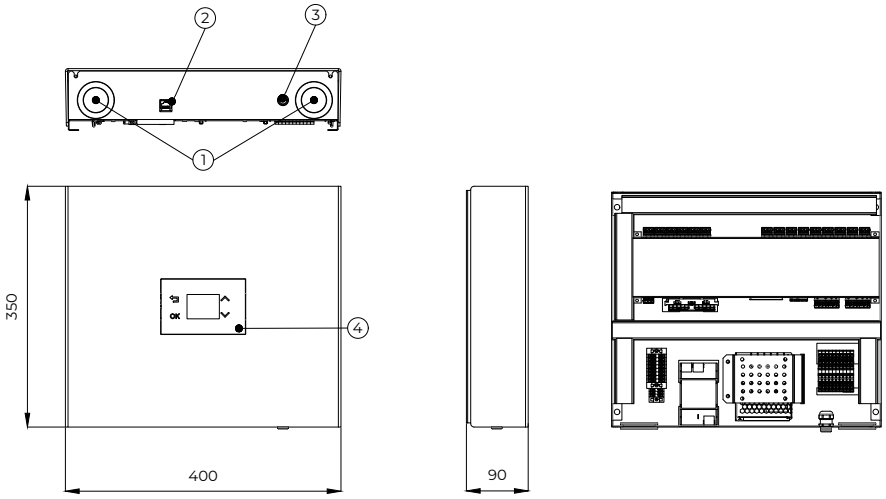
WR KSM 2

Description and dimensions

- Wall-mounted indoor unit
- KSM regulator and integrated WEB module

Legend

1 Conduits for control cable
2 Internet cable jack
3 Threaded power cable conduit
4 KT-2A controller



WR KSM+ WALL-MOUNTED EXPANSION UNIT

Version

Expansion wall-mounted unit

Model

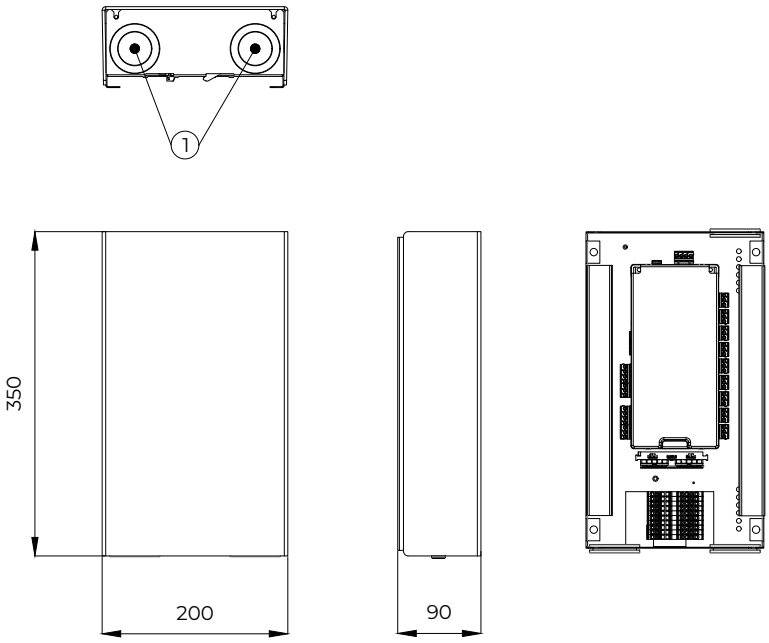
WR KSM+

Description and dimensions

- Wall-mounted indoor unit
- Expansion module KSM+

Legend

1 Conduits for control cable



WR KSM C WALL-MOUNTED CONTROLLER

Version

Indoor wall unit for activating an additional heat pump in cascade

Model

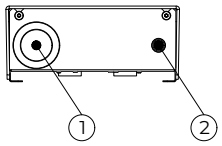
WR KSM C

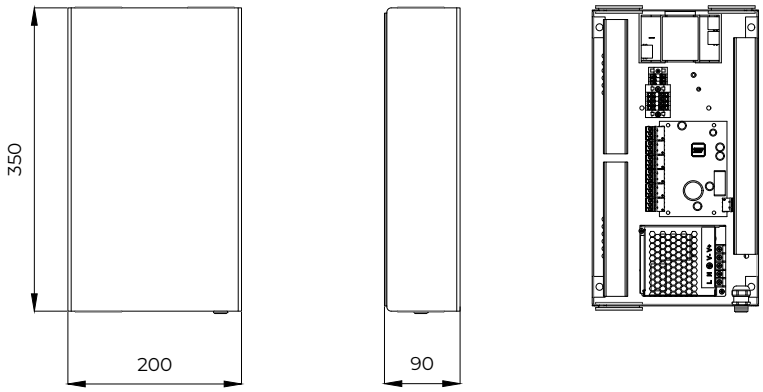
Description and dimensions

- Wall-mounted indoor unit
- Integrated WEB module

Functional characteristics

- Activate an additional heat pump in cascade
- Register your heat pump with CLOUD. KRONOTERM
- Manage a heat pump in cascade via the cloud-based CMS™ management system.





Legend

1 Conduits for control cable

2 Threaded power cable conduit

BASIC KSM REGULATOR

Model

KSM (Kronoterm System Manager)

Description

- Basic regulator for heat pump and heating system
- Control via the KT-2A controller or mobile/web app Cloud.kronoterm.com.

Functional characteristics

- Controlling the heat pump
- Controlling additional sources of heat (gas, oil, and pellets)
- Heating DHW tank
- Thermally disinfect of domestic hot water
- Control functions for:
  - 1X direct loop (radiators/convectors/in-floor heating)
  - 1X direct or mixing loop (radiators/convectors/in-floor heating)
  - heating DHW tank
  - daily and weekly schedules
  - adaptive control of specific loops
  - room temperature regulation with the Kronoterm KT-1 and KT-2 thermostats
- Adaptive weather control based on outdoor and ambient room temperature
- Active cooling
- Usage of excess energy from the PV module (PV program)
- Screed-drying program
- WEB module for internet connection (RJ45 connection – Ethernet)
- BMS connection via MODBUS RS485 protocol
- Smart-grid ready (SG ready)

EXPANSION KSM+ REGULATOR

Model

KSM+ (Kronoterm System Manager +)

Description

- Expansion module as an upgrade to the basic regulator
- Possible installation of one expansion module (1x)
- Integration in the HYDRO C2 or HYDRO S2 indoor unit

Functional characteristics

- Managing 2 additional loops (direct or mixed)
- Regulating SSE sunlight collectors
- Managing biomass boilers
- Heating DHW tank with sunlight collectors or biomass boilers
- Heating pool
- Heating pool with sunlight collectors

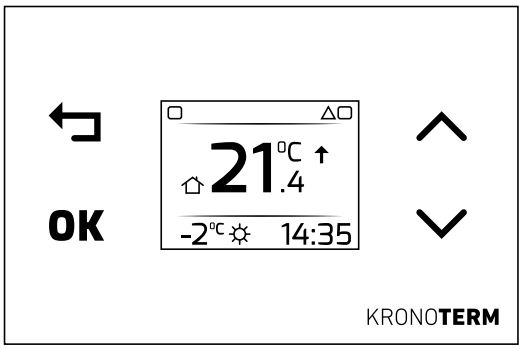
KT-2A CONTROLLER

Model

KT-2A

Description

- For controlling VERSI heat pump, indoor units (HYDRO, WR KSM 2), and heating system
- Control and settings for all heating/ cooling loops
- Control and settings for DHW tank
- Control and settings for room temperature
- Operational status display
- Service access and error correction
- Setting, measuring and displaying room temperature
- Weather forecast
- Night mode
- Accuracy: 0.1 °C
- Cable connection – Modbus RS485.
- Color LCD screen and capacitive buttons
- The KT-2A Controller has 3 operational modes:
  - thermostat
  - controller for the heat pump and heating system
  - thermostat and controller for the heat pump and heating system



Controller KT-2A

KT-1 THERMOSTAT

Model

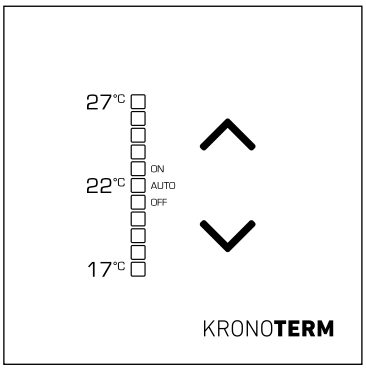
KT-1

Description

- Control and settings for room temperature
- Control and settings for individual heating/cooling loops

Functional characteristics

- Setting, measuring and displaying roomtemperature
- Heating loop operational mode (OFF/ ON/AUTO)
- “Night” mode
- Accuracy: 0.1 °C
- Settings range: 17–27 °C
- Cable connection – Modbus RS485
- LCD lighting and capacitive buttons

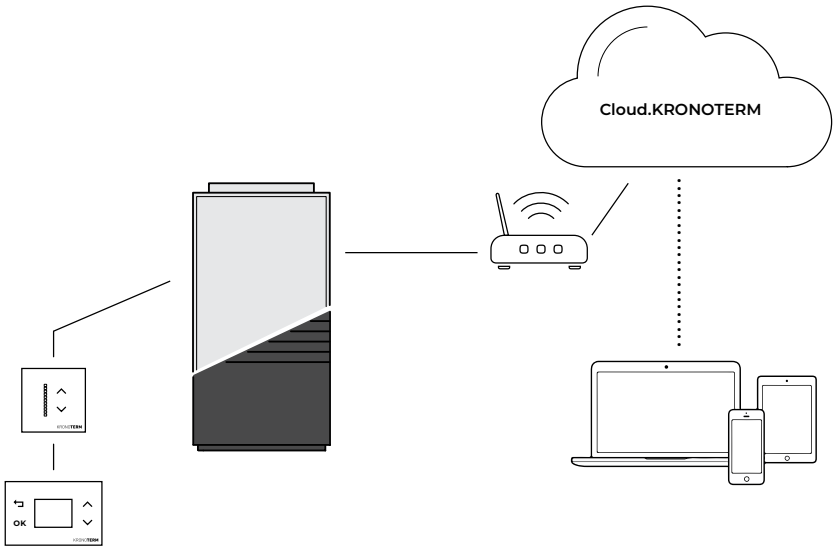


Thermostat KT-1

CLOUD. KRONOTERM

Cloud.Kronoterm gives you oversight and control over your heat pump, its heating loops, and its consumption. The only condition is that your appliance be connected to the internet.
Recording all events and over 30 operational parameters gives the support team a comprehensive overview and instantaneous diagnostics in the event of a malfunction. All of the data collected are used for permanent improvements which automatically get fed into the appliance, increasing your comfort and lowering operational costs.

Cloud.Kronoterm makes your already installed appliance smarter and better.



ADDITIONAL EQUIPMENT FOR VERSI SYSTEM

VERSI-O

Installation equipment

- VERSI-O metal foundation
- VERSI-O concrete foundation
- VERSI-O wall console
- Straight cover for connecting floor pipes (350-700 mm)
- Angled cover for connecting ground pipes
- Set of connecting pipes for connection through the outdoor unit's back side
- Various DHW tanks and buffer tanks
- Kit for remote filling of heating system
- KT-1 wall-mounted room thermostat
- KT-2A wall-mounted room thermostat and controller

Electrical equipment

- KSM+ module
- PWM module for HYDRO C2, HYDRO S2, and WR KSM 2 for controlling heat pumps without a PWM signal
- Kit for pressure sensor for WR KSM 2 for measuring the pressure in the heating system
- Power cable for outdoor unit VERSI O
- Power cable for indoor unit HYDRO (7 m, 15 m, 25 m)
- Communication cable between the indoor and outdoor units (7 m, 15 m, 25 m)
- An electrical box with built in circuit breaker (1F and 3F)
- Electrical energy meter for installation in the electrical box
- Kit for upgrading the 2-core communication cable for connecting the KT-2A controller or KT-1 thermostat to the regulator.

Safety equipment

- Safety exhaust valve to exhaust heated water from the outdoor unit to protect from freezing (G 1'' OT and G 5/4'' OT)

Design equipment

- Powder-coated in the colors NERO, OLIO, NEBBIA, and ANTHRACITE
- Housing in INOX or CORTEN material

VERSI-I

Installation equipment

- Set of air ducts with a ø400 screen (white, anthracite, black, natural)
- Set of air ducts with perforated cover (white, anthracite, black, natural)
- Set of air ducts for installation through the wall
- Additional anti-vibrational foam
- Kit for remote filling of heating system
- KT-1 thermostat
- KT–2A thermostat

Electrical equipment

- PWM module for controlling heat pumps without a PWM signal
- VERSI I power cable
- An electrical box with built in circuit breaker (1F and 3F)
- Voltage meter for installation in the electrical box
- Kit for upgrading the 2-core communication cable for connecting the KT-2A controller or KT-1 thermostat to the regulator.

VERSI-X

Installation equipment

- Set of air ducts with a ø400 screen (white, anthracite, black)
- Set of air ducts with perforated cover (white, anthracite, black)
- Additional anti-vibrational foam
- Kit for remote filling of heating system
- Modular directable air duct
- KT-1 thermostat
- KT–2A thermostat

Electrical equipment

- KSM+ modul
- PWM module for HYDRO C2, HYDRO S2, and WR KSM 2 for controlling heat pumps without a PWM signal
- Kit for pressure sensor for WR KSM 2 for measuring the pressure in the heating system
- Power cable for outdoor unit VERSI O
- Power cable for indoor unit HYDRO (7 m, 15 m, 25 m)
- Communication cable between the indoor and outdoor units (7 m, 15 m, 25 m)
- An electrical box with built in circuit breaker (1F and 3F)
- Voltage meter for installation in the electrical box
- Kit for upgrading the 2-core communication cable for connecting the KT-2A controller or KT-1 thermostat to the regulator.

HEAT PUMP SPECIFICATIONS

APPLIANCE	Unit	VERSI-O	VERSI-I	VERSI-X
DEDICATED INDOOR UNIT				
Label		HYDRO S2, HYDRO C2, WR KSM 2	-	HYDRO S2, HYDRO C2, WR KSM 2
VERSION				
Heat source		Air	Air	Air
Heat sink		Water	Water	Water
Controller		KSM	KSM	KSM
Heat pump location		Outdoor	Indoor	Indoor
Controller position		In the indoor unit	Integrated	In the indoor unit
Compressor		1 X scroll with variable speed	1 X scroll with variable speed	1 X scroll with variable speed
Compressor drive		DC inverter	DC inverter	DC inverter
Fan		Centrifugal with variable rotation	Centrifugal with variable rotation	Centrifugal with variable rotation
Defrosting		Active (refrigerant changes direction)	Active (refrigerant changes direction)	Active (refrigerant changes direction)
Electrical heater		In the indoor unit	Integrated	In the indoor unit
Zone valve		In the indoor unit	Integrated	In the indoor unit
Flow sensor		In the indoor unit	Integrated	In the indoor unit
Flow switch		Integrated	/	Integrated
Pressure sensor in the heating system		In the indoor unit	Integrated	In the indoor unit
Circulation pump, secondary		Integrated	Integrated	Integrated
Safety valve for heating system		In the indoor unit	Integrated	In the indoor unit
CAPACITY ACCORDING TO STANDARD EN 14511				
HEATING		Heating capacity/electrical power/COP	Heating capacity/electrical power/COP	Heating capacity/electrical power/COP
A7/W30-35	**kW/kW/-**	6.20 / 1.24 / 5.01	6.13 / 1.28 / 4.80	6.13 / 1.28 / 4.80
A2/W30-35	**kW/kW/-**	5.54 / 1.49 / 3.72	5.68 / 1.62 / 3.52	5.68 / 1.62 / 3.52
A-7/W30-35	**kW/kW/-**	5.86 / 2.02 / 2.91	5.79 / 2.04 / 2.83	5.79 / 2.04 / 2.83
A-10/W30-35	**kW/kW/-**	6.11 / 2.21 / 2.76	6.20 / 2.23 / 2.78	6.20 / 2.23 / 2.78
A7/W47-55	**kW/kW/-**	6.04 / 1.93 / 3.12	6.09 / 1.95 / 3.13	6.09 / 1.95 / 3.13
A-10/W47-55	**kW/kW/-**	5.88 / 2.89 / 2.04	6.06 / 2.81 / 2.16	6.06 / 2.81 / 2.16
COOLING		Cooling capacity/electrical power/EER	Cooling capacity/electrical power/EER	Cooling capacity/electrical power/EER
A35/W12-7	**kW/kW/-**	5.02 / 2.71 / 1.85	5.08 / 2.85 / 1.78	5.08 / 2.85 / 1.78
A35/W23-18	**kW/kW/-**	4.98 / 1.69 / 2.95	5.04 / 1.76 / 2.86	5.04 / 1.76 / 2.86
SEASONAL HEATING CAPACITIES ACCORDING TO STANDARD EN 14825				
Rated heating capacity $P_{designh}$ 35°C / 55°C – average climate zone	**kW / kW**	6.4 / 6.0	6.5 / 6.1	6.5 / 6.1
SCOP, 35°C/55°C – average climate zone		4.97 / 3.60	4.84 / 3.66	4.84 / 3.66
Rated heating capacity $P_{designh}$ 35°C / 55°C – warm climate zone	**kW / kW**	6.0 / 6.0	6.0 / 5.9	6.0 / 5.9
SCOP, 35°C/55°C – warm climate zone		6.08 / 4.17	6.10 / 4.57	6.10 / 4.57
Rated heating capacity $P_{designh}$ 35°C / 55°C –cold climate zone	**kW / kW**	7.0 / 5.8	7.0 / 6.4	7.0 / 6.4
SCOP, 35°C/55°C – cold climate zone		4.22 / 3.01	4.31 / 3.17	4.31 / 3.17

These data is achieved with the appliance manufacturer's additional equipment.

HEAT PUMP SPECIFICATIONS

APPLIANCE	Unit	VERSI-O	VERSI-I	VERSI-X
SEASONAL ENERGY EFFICIENCY FOR HEATING ACCORDING TO DIRECTIVE (EU) 811/2013 – DATA SHEET				
Temperature mode	°C	35 / 55	35 / 55	35 / 55
Rate of seasonal energy efficiency		A+++ / A++	A+++ / A++	A+++ / A++
Rated heating capacity $P_{designh}$, average climate zone	kW	6.4 / 6.0	6.5 / 6.1	6.5 / 6.1
Seasonal space heating energy efficiency ηs, average climate zone	%	191 / 138	186 / 141	186 / 141
Annual energy consumption average climate zone	kWh	2659 / 3446	2773 / 3441	2773 / 3441
Declared load profile for water heating usage		L*	L**	L*
Class for seasonal water heating energy efficiency determined in average climate zone		A*	A**	A*
Seasonal water heating energy efficiency determined in average climate zone	%	97*	100**	96*
Annual energy consumption for water heating in average climate zone	kWh	1053*	1023**	1062*
Level of acoustic power L_{WA}, indoor	dB	-	36	36
Rated heating capacity $P_{designh}$, cold climate zone	kW	7.0 / 5.8	7.0 / 6.4	7.0 / 6.4
Rated heating capacity $P_{designh}$, warm climate zone	kW	6.0 / 6.0	6.0 / 5.9	6.0 / 5.9
Seasonal space heating energy efficiency ηs, cold climate zone	%	166 / 117	169 / 119	169 / 119
Seasonal space heating energy efficiency ηs, warm climate zone	%	238 / 163	239 / 179	239 / 179
Annual energy consumption cold climate zone	kWh	4090 / 4759	4003 / 4984	4003 / 4984
Annual energy consumption warm climate zone	kWh	1330 / 1934	1326 / 1737	1326 / 1737
Level of acoustic power L_{WA}, outdoor	dB	43	45	45

**Only with indoor unit Hydro C2*
***Only in combination with DHW water tank HR200*

SEASONAL ENERGY EFFICIENCY FOR HEATING ACCORDING TO DIRECTIVE (EU) 811/2013 – DATA SHEET FOR COMPLETE SPATIAL HEATERS				
Controller model		KSM	KSM	KSM
Temperature mode	°C	35 / 55	35 / 55	35 / 55
Class of controller for adjusting temperature		VI	VI	VI
Temperature controller's contribution to seasonal efficiency	%	4.0	4.0	4.0
Seasonal space heating energy efficiency ηs for the whole set, average climate zone		A+++ / A++	A+++ / A++	A+++ / A++
Seasonal space heating energy efficiency ηs f or the whole set, average climate zone	%	195 / 142	191 / 145	191 / 145
Seasonal space heating energy efficiency ηs, cold climate zone	%	170 / 121	173 / 123	173 / 123
Seasonal space heating energy efficiency ηs for the whole set, warm climate zone	%	242 / 167	243 / 183	243 / 183

These data is achieved with the appliance manufacturer's additional equipment.

HEAT PUMP SPECIFICATIONS

APPLIANCE	Unit	VERSI-O	VERSI-I	VERSI-X
ELECTRICAL DATA*				
ELECTRICAL DATA 1F				
Rated voltage		~230 V	~230 V	~230 V
Electrical heater		/	1 x 2 kW ~230 V	/
Max. operating current	A	15	26	15
Max. electrical power	kW	3.3	5.8**	3.3
Fuses	A	1 x C16	1 x C32	1 x C16
Power cable****	mm²	3 x 2.5 mm2	3 x 6 mm2	3 x 2.5 mm2
Type of power cable		H05VV-F	H05VV-F	H05VV-F
ELECTRICAL DATA 3F				
Rated voltage		/	~3f, 400V	/
Electrical heater		/	1 x 2kW ~230 V / 2 x 2kW ~230 V	/
Max. operating current	A	/	15 / 15	/
Max. electrical power	kW	/	5.8** / 7.8***	/
Fuses	A	/	3 x C16 / 3 x C16	/
Power cable****	mm²	/	5 x 2.5 mm2 / 5 x 2.5 mm²	/
Type of power cable		/	H05VV-F / H05VV-F	/
COMMUNICATION				
Connection between the outdoor and indoor units		FTP 5e cable / 2x2x0.6 mm2 (LiYCY)	FTP 5e cable / 2x2x0.6 mm2 (LiYCY)	FTP 5e cable / 2x2x0.6 mm2 (LiYCY)
COOLING SYSTEM				
Refrigerant – type		R 452 B	R 452 B	R 452 B
Refrigerant – Industrial designation		HFC- 452B (HFC-32, HFO-1234yf, HFC-125; 67%/7%/26%)	HFC- 452B (HFC-32, HFO-1234yf, HFC-125; 67%/7%/26%)	HFC- 452B (HFC-32, HFO-1234yf, HFC-125; 67%/7%/26%)
GWP refrigerant (potential of global warming)		676	676	676
Refrigerant – quantity	kg	1.3	1.3	1.3
Max. operating pressure	MPa	4.5	4.5	4.5
PRIMARY SIDE (HEAT SOURCE – AIR)				
Max. air flow at maximum heating capacity	m³/h	1800	1800	1800
Maximum available outdoor pressure drop at maximum air flow	Pa	/	100	100
Min. air flow at minimum heating capacity	m³/h	650	650	650
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	1.04	1.04	1.04
Max. electrical power	W	75	75	75
Maximum available outdoor pressure drop at rated air flow	kPa	63	63	63
HEATING				
Range of operation – min. / max. temperature. air	°C	-25/40	-25/40	-25/40
COOLING				
Range of operation – min. / max. temperature. air	°C	0/40	0/40	0/40
DIMENSIONS AND WEIGHT – TRANSPORT				
Dimensions (W x H x D)	mm	680 x 1392 x 880	790 x 1411 x 680	790 x 1411 x 680
Weight	kg	163	177	163
DIMENSIONS AND WEIGHT – NET				
Dimensions (W x H x D)	mm	800 x 1215 x 600	600 x 1280 x 710	600 x 1280 x 710
Weight	kg	145	161	147

*For the system's connection power, power cables, and fuse dimensions, see the instructions of preparing for installation.
**Valid for systems with activated 2 kW electric heater.
***Valid for systems with activated 4 kW electric heater.

TECHNICAL SPECIFICATIONS – HYDRAULIC INDOOR UNIT

INDOOR UNIT*	Unit	HYDRO S2		HYDRO C2	
ELECTRICAL DATA 1F					
Frequency	**Hz**	50	50	50	50
Nominal voltage	**V**	~ 230	~ 230	~ 230	~ 230
Electrical heater		1 x 2 kW ~230 V	2 x 2 kW ~230 V	1 x 2 kW ~230 V	2 x 2 kW ~230 V
Max. operating current	**A**	11.8	20.6	11.8	20.6
Max. electrical power	**kW**	2.6	4.6	2.6	4.6
Fuses	**A**	1 x C16	1 x C20	1 x C16	1 x C20
Power cable	**mm²**	3 x 2.5	3 x 4	3 x 2.5	3 x 4
Type of power cable		H05VV-F	H05VV-F	H05VV-F	H05VV-F
ELECTRICAL DATA 3F					
Frequency	**Hz**	50		50	
Nominal voltage	**V**	3N ~400		3N ~400	
Electrical heater		3 x 2 kW ~230V		3 x 2 kW ~230V	
Max. operating current	**A**	11.8		11.8	
Max. electrical power	**kW**	6.6		6.6	
Fuses	**A**	3 x C16		3 x C16	
Power cable	**mm²**	5 x 2.5		5 x 2.5	
Type of power cable		H05VV-F		H05VV-F	

**For system Max. power, power cables and fuse dimensions, see Installation guidelines*

SECONDARY SIDE (HEAT SINK) – WATER			
Minimum rated inner diameter pipe between heat pump and indoor unit	**DN**	25	20
Maximum available pressure drop at rated air flow**	**kPa**	5.6	7

VOLUME			
BOILER	**l**	/	1.27
Heat losses Q_{st} po EN 12897	**kWh/24 h**	/	1,27
BUFFER TANK ***		40	40
Heat losses Q_{st} at 55 °C	**kWh / 24 h**	1.2	1.2
Heat losses Q_{st} at 35 °C	**kWh / 24 h**	0.335	0.335

DIMENSIONS AND WEIGHT – TRANSPORT			
Dimensions (W x H x D)	**mm**	600 x 750 x 450	640 x 2035 x 790
Weight	**kg**	36	148

DIMENSIONS AND WEIGHT – NET			
Dimensions (W x H x D)	**mm**	525 x 620 x 320	602 x 1812 x 684
Weight	**kg**	27	135

COMMUNICATION			
Connection between the outdoor and indoor units	**mm**	FTP 5e cable / 2x2x0.6 mm2 (LiYCY)	FTP 5e cable / 2x2x0.6 mm2 (LiYCY)
Connection to BMS	**kg**	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

** Calculated at condition A2/W30-35;*
**** Available as an accessory*

TECHNICAL DATA – CONTROLLER

APPLIANCE		WR KSM 2	WR KSM+	WR KSM C
ELECTRICAL DATA*				
Frequency	**Hz**	50	50	50
Nominal voltage	**V**	~ 230	~ 230	~ 230
Max. operation current	**A**	2.2	2.2	2.2
Max. electrical power	**kW**	0.5	0.5	0.5
Fuses	**A**	1 x C10	1 x C10	1 x C10
Power cable	**mm²**	3 x 1.5	3 x 1.5	3 x 1.5
Type of power cable		H05VV-F	H05VV-F	H05VV-F
DIMENSIONS AND WEIGHT – TRANSPORT				
Dimensions (W x H x D)	**mm²**	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)	**mm²**	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

**For system Max. power, power cables and fuse dimensions, see Installation guidelines*

TECHNICAL DATA – ELECTRIC FLOWTHROUGH HEATER PG_6 AND PG_12

APPLIANCE		PG_6	PG_12	
HEATING MEDIUM - WATER				
Minimum water temperature	°C	5	5	
Maximum water temperature	°C	80	80	
Rated flow at dT 5K according to standard EN 14511	m^3/h	1.035	2.07	
Maximum available pressure drop	kPa	0.43	0.63	
ELECTRICAL DATA*				
ELECTRICAL DATA 1F				
Frequency	Hz	50	50	50
Rated voltage	V	~230	~230	~230
Electrical heater		1 x 2 kW ~230 V	2 x 2 kW ~230 V	2 x 2 kW ~230 V
Max. operating current	A	8.7	17.4	17.4
Max. electrical power	kW	2.0	4.0	4.0
Fuses	A	1 x C10	1 x C20	1 x C20
Power cable	mm^2	3 x 1.5	3 x 2.5	3 x 2.5
Type of power cable		H05VV-F	H05VV-F	H05VV-F
ELECTRICAL DATA 3F				
Frequency	Hz	50	50	50
Nominal voltage	V	3N ~400	3N ~400	3N ~400
Electrical heater		3 x 2 kW ~230 V	4 x 2 kW 2f ~230 V	6 x 2 kW 3f ~230 V
Max. operating current	A	8.7	17.4	17.4
Max. electrical power	kW	6.0	8.0	12.0
Fuses	A	3 x C10	2 x C20	3 x C20
Power cable	mm^2	5 x 1.5	4 x 2.5	5 x 2.5
Type of power cable		H05VV-F	H05VV-F	H05VV-F

**For the system's connection power, power cables, and fuse dimensions, see the instructions on preparing for installation*

DIMENSIONS AND WEIGHT – TRANSPORT			
Dimensions (W x H x D)	mm	140 x 160 x 350	220 x 230 x 460
Weight	kg	4.3	10.5

DIMENSIONS AND WEIGHT – NET			
Dimensions (W x H x D)	mm	124 x 145 x 330	200 x 213 x 440
Weight	kg	4.1	10.1

NOISE

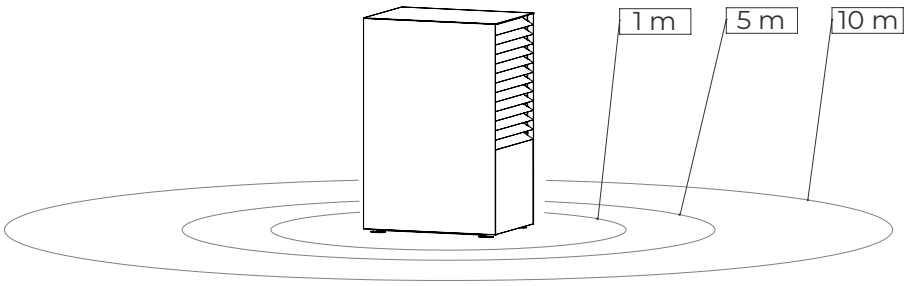
Description

Sound power is intrinsic to a sound source and is not related to an observer's distance from the source; it simply reflects the energy produced by the sound source, radiating away in all directions.

Sound pressure, on the other hand, depends on distance from the sound source and describes the decibels measured at that point.

Sound reverberates through the structure, so all connections must be equipped with compensators or vibration dampeners.

This makes finding the right spot for your heat pump of even greater importance. Neighboring walls and other objects near the heat pump affect the sound pressure.



APPLIANCE	Unit	VERSI-O	VERSI-I	VERSI-X
NOISE LEVEL ACCORDING TO STANDARD EN 12102 AT CONDITION A7W35 – APPLIANCE				
THE DECLARED SOUND POWER ON THE ECOLABEL ENERGY LABEL				
Sound power	**dB (A)**	43	36	36
Sound pressure at 1 m away	**dB (A)**	35	28	28
Sound pressure at 5 m away	**dB (A)**	21	14	14
Sound pressure at 10 m away	**dB (A)**	15	8	8
MINIMUM SOUND POWER				
Sound power	**dB (A)**	41	36	36
Sound pressure at 1 m away	**dB (A)**	33	28	28
Sound pressure at 5 m away	**dB (A)**	19	14	14
Sound pressure at 10 m away	**dB (A)**	13	8	8
MAXIMUM SOUND POWER IN OPTIMUM MODE				
Sound power	**dB (A)**	59	50	50
Sound pressure at 1 m away	**dB (A)**	51	42	42
Sound pressure at 5 m away	**dB (A)**	37	28	28
Sound pressure at 10 m away	**dB (A)**	31	22	22
MAXIMUM SOUND POWER IN BOOST MODE				
Sound power	**dB (A)**	61	51	51
Sound pressure at 1 m away	**dB (A)**	53	43	43
Sound pressure at 5 m away	**dB (A)**	38	29	29
Sound pressure at 10 m away	**dB (A)**	33	23	23
MAXIMUM SOUND POWER IN SILENT MODE				
Sound power	**dB (A)**	47	41	41
Sound pressure at 1 m away	**dB (A)**	39	33	33
Sound pressure at 5 m away	**dB (A)**	25	19	19
Sound pressure at 10 m away	**dB (A)**	19	13	13

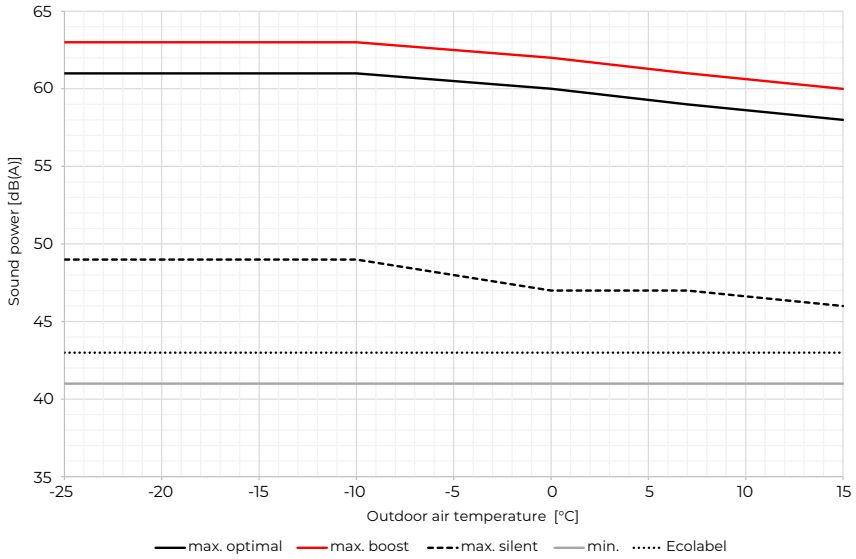
The appliance's sound power depends on the building's actual heating needs. The lower the heating needs, the lower the noise levels, and vice versa.
Sound pressure is calculated from sound power in semicircular installation (Q=2).
These data is achieved with the appliance manufacturer's additional equipment.

APPLIANCE	Unit	VERSI-O	VERSI-I	VERSI-X
NOISE LEVEL ACCORDING TO STANDARD EN 12102 AT CONDITION A7W35 – OUTSIDE ON THE BUILDING'S FACADE				
THE DECLARED SOUND POWER ON THE ECOLABEL ENERGY LABEL				
Sound power	**dB (A)**	-	45	45
Sound pressure at 1 m away	**dB (A)**	-	37	37
Sound pressure at 5 m away	**dB (A)**	-	23	23
Sound pressure at 10 m away	**dB (A)**	-	17	17
MINIMUM SOUND POWER				
Sound power	**dB (A)**	-	45	45
Sound pressure at 1 m away	**dB (A)**	-	37	37
Sound pressure at 5 m away	**dB (A)**	-	23	23
Sound pressure at 10 m away	**dB (A)**	-	17	17
MAXIMUM SOUND POWER IN OPTIMUM MODE				
Sound power	**dB (A)**	-	57	57
Sound pressure at 1 m away	**dB (A)**	-	49	49
Sound pressure at 5 m away	**dB (A)**	-	35	35
Sound pressure at 10 m away	**dB (A)**	-	29	29
MAXIMUM SOUND POWER IN BOOST MODE				
Sound power	**dB (A)**	-	58	58
Sound pressure at 1 m away	**dB (A)**	-	50	50
Sound pressure at 5 m away	**dB (A)**	-	36	36
Sound pressure at 10 m away	**dB (A)**	-	30	30
MAXIMUM SOUND POWER IN SILENT MODE				
Sound power	**dB (A)**	-	46	46
Sound pressure at 1 m away	**dB (A)**	-	38	38
Sound pressure at 5 m away	**dB (A)**	-	24	24
Sound pressure at 10 m away	**dB (A)**	-	18	18

The appliance's sound power depends on the building's actual heating needs. The lower the heating needs, the lower the noise levels, and vice versa.
Sound pressure is calculated from sound power in semicircular installation (Q=2).
These data is achieved with the appliance manufacturer's additional equipment.

VERSI-O

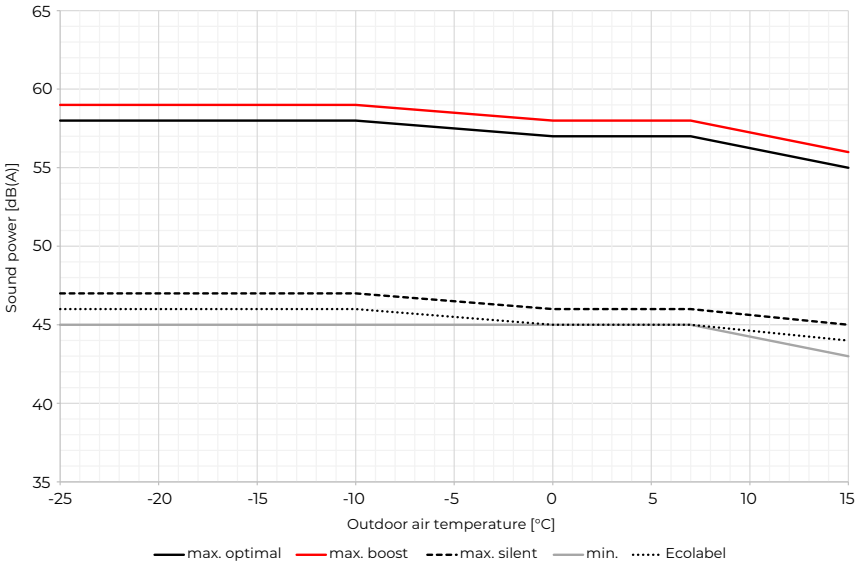
A graph of the VERSI-O heat sound power levels at various levels of inlet air and operational mode.



VERSI-I AND VERSI-X

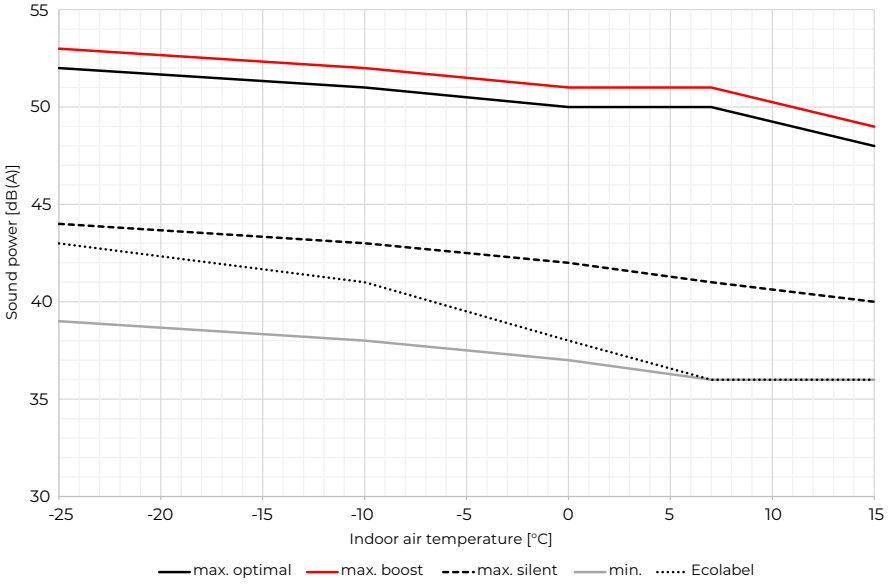
Outside on the building's facade

A graph of the VERSI-I and VERSI-X heat pumps' noise levels outside on the building's facade.



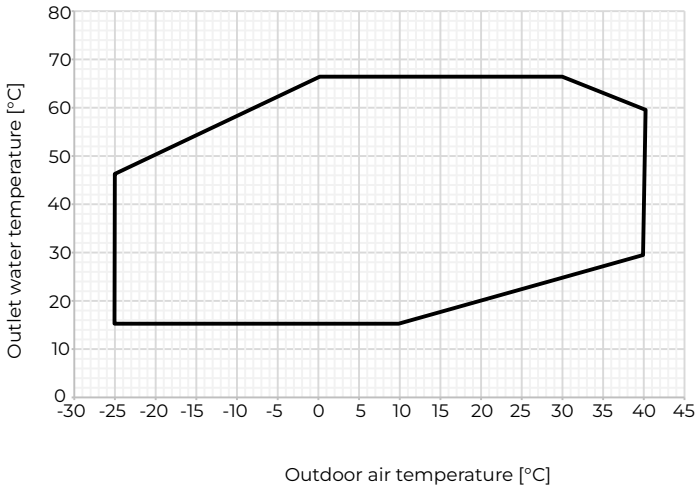
VERSI-I AND VERSI-X

A graph of the VERSI-I and VERSI-X heat pump's noise levels in indoor installation.

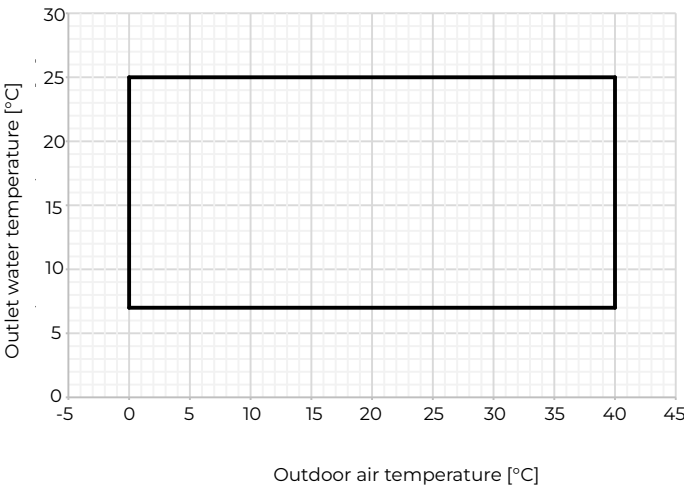


RANGE OF OPERATION

Heating



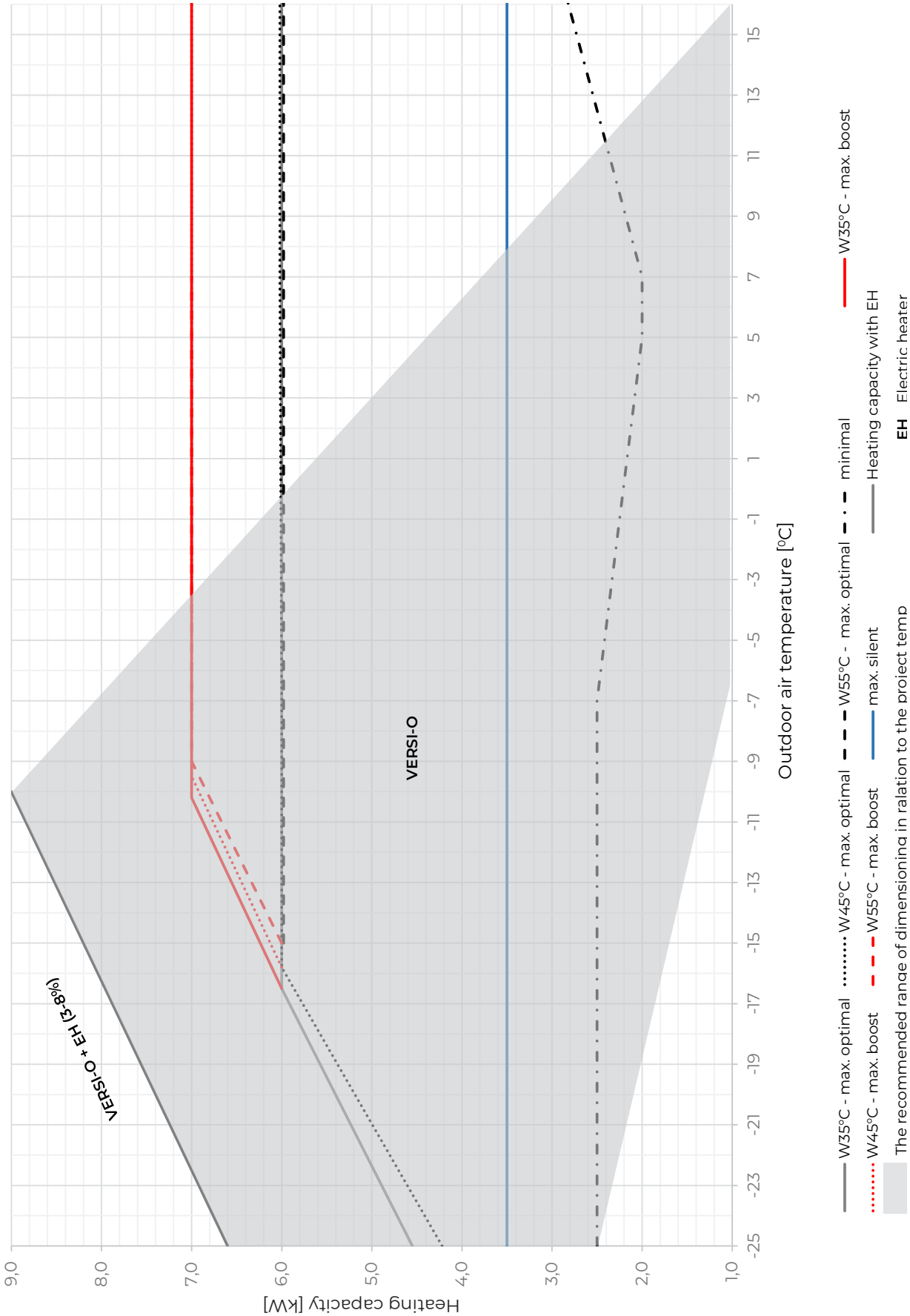
Cooling



CAPACITY CURVES

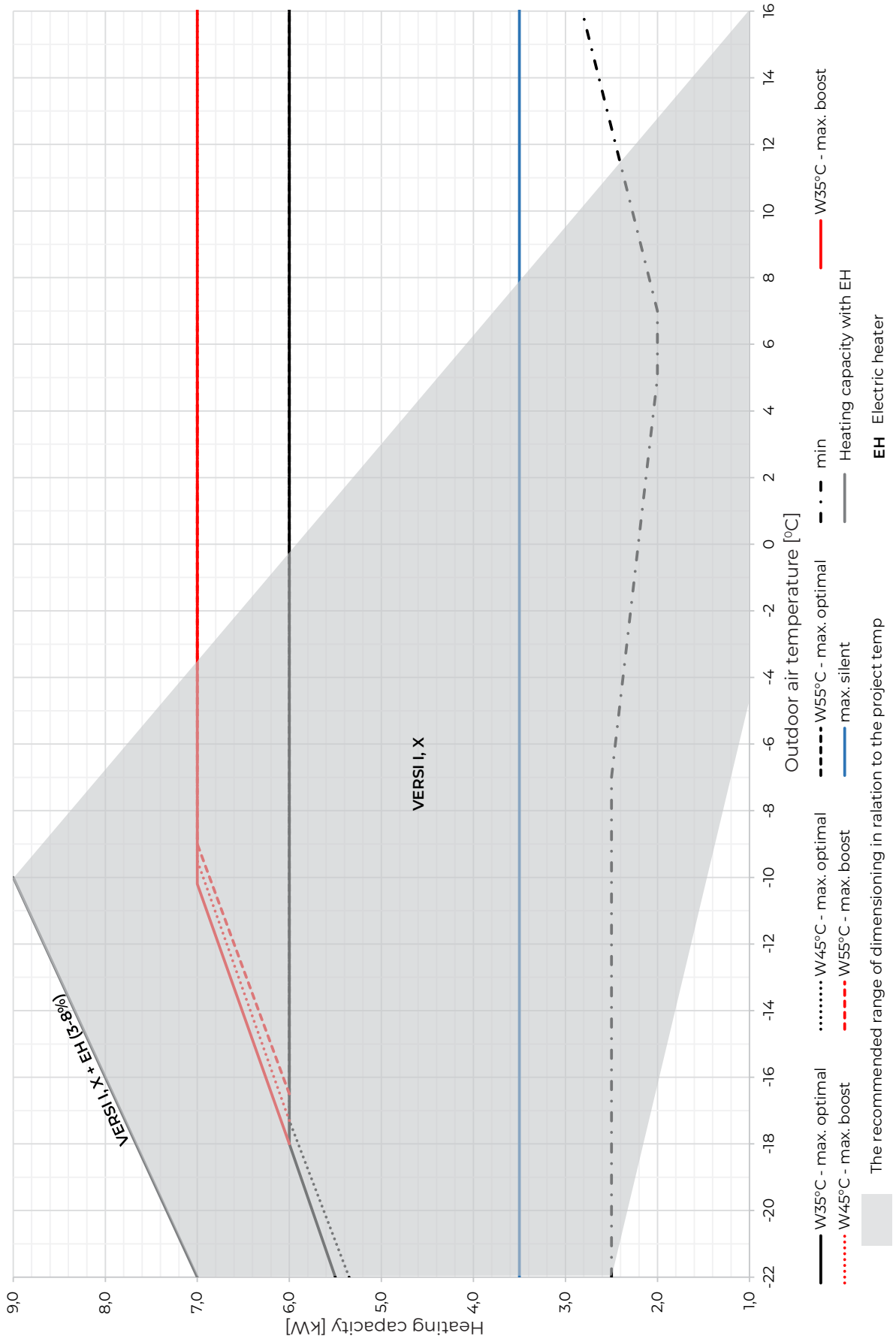
VERSI-O

Heating capacity



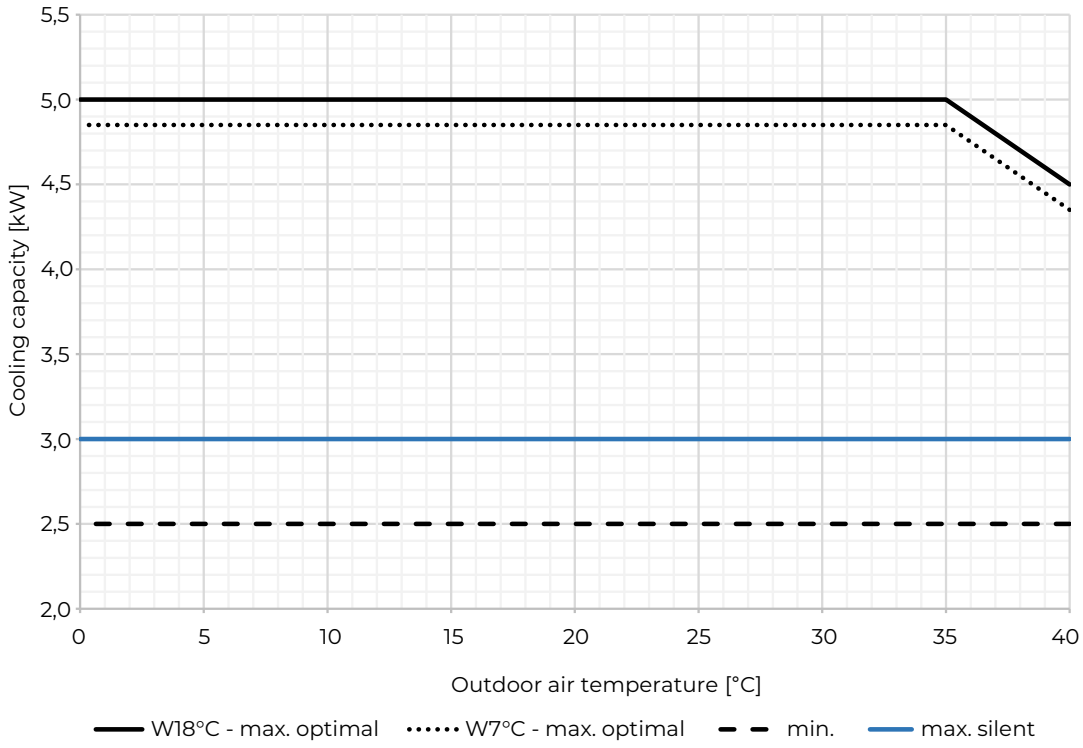
CAPACITY CURVES

VERSI-X, VERSI-I
Heating capacity



CAPACITY CURVES

VERSI-O
VERSI-X
VERSI-I
Cooling capacity



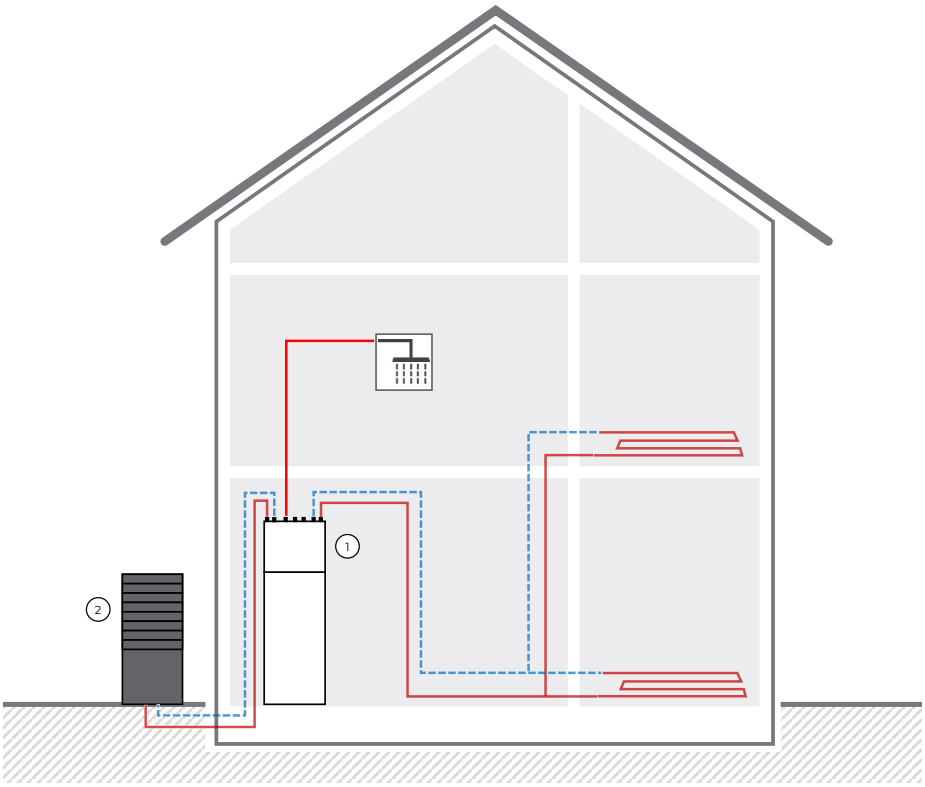
BASIC WIRING SCHEMATIC

VERSI-O + HYDRO C2

Legend

1 HYDRO C2

2 VERSI-O



VERSI-O + HYDRO S2

Legend

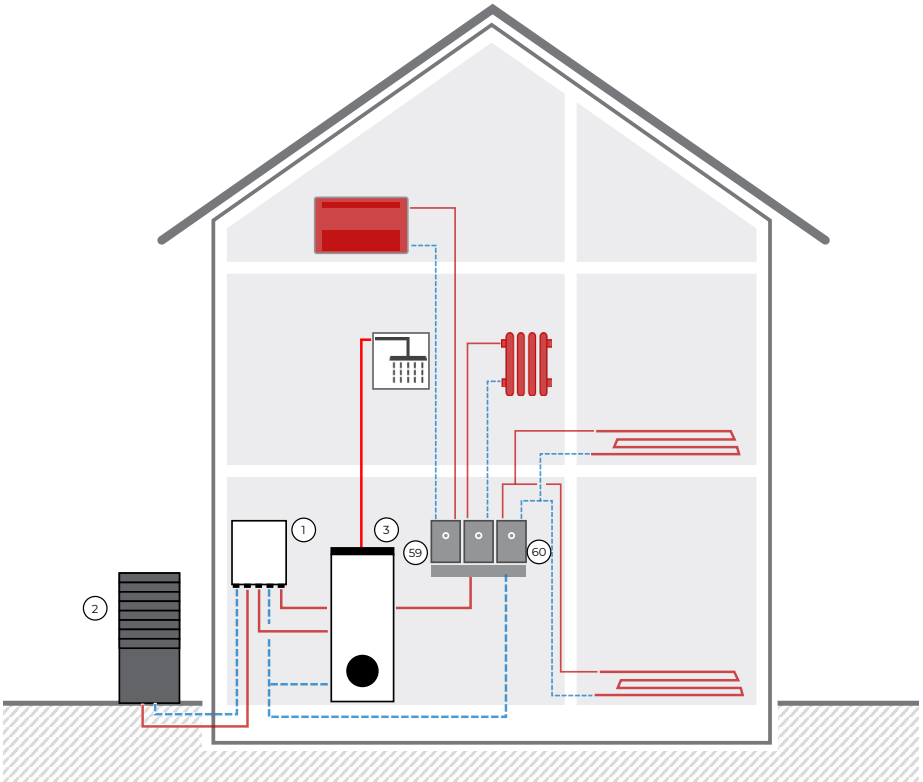
1 HYDRO S2

2 VERSI-O

3 DHW tank

59 Heating loop set – direct

60 Heating loop pump set – mixing

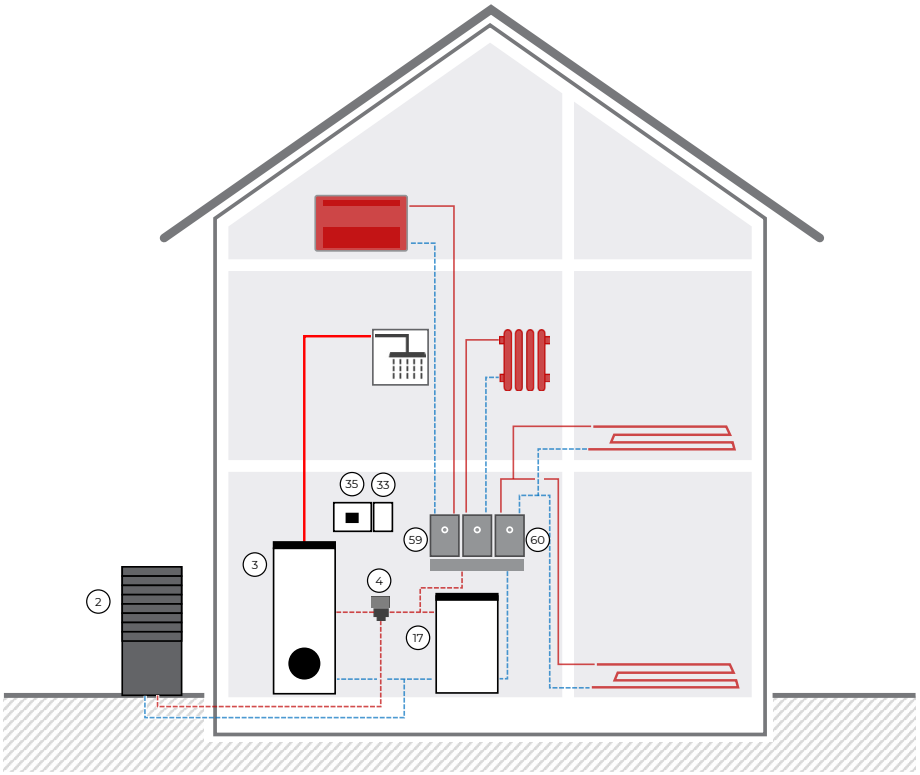


BASIC WIRING SCHEMATIC

VERSI-O + WR KSM 2

Legend

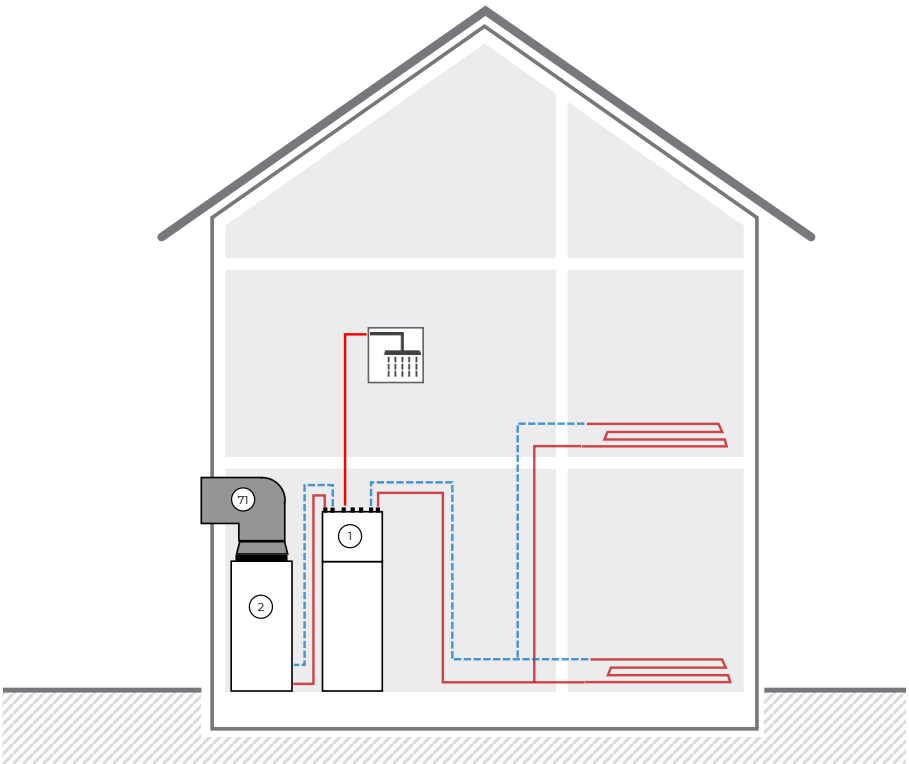
2 VERSI-O
3 DHW tank
4 3-way zone valve
17 Buffer tank
33 WR KSM+
35 WR KSM 2
59 Heating loop set – direct
60 Heating loop pump set – mixing



VERSI-X + HYDRO C2

Legend

1 HYDRO C2
2 VERSI-X
71 Flexible air ducts

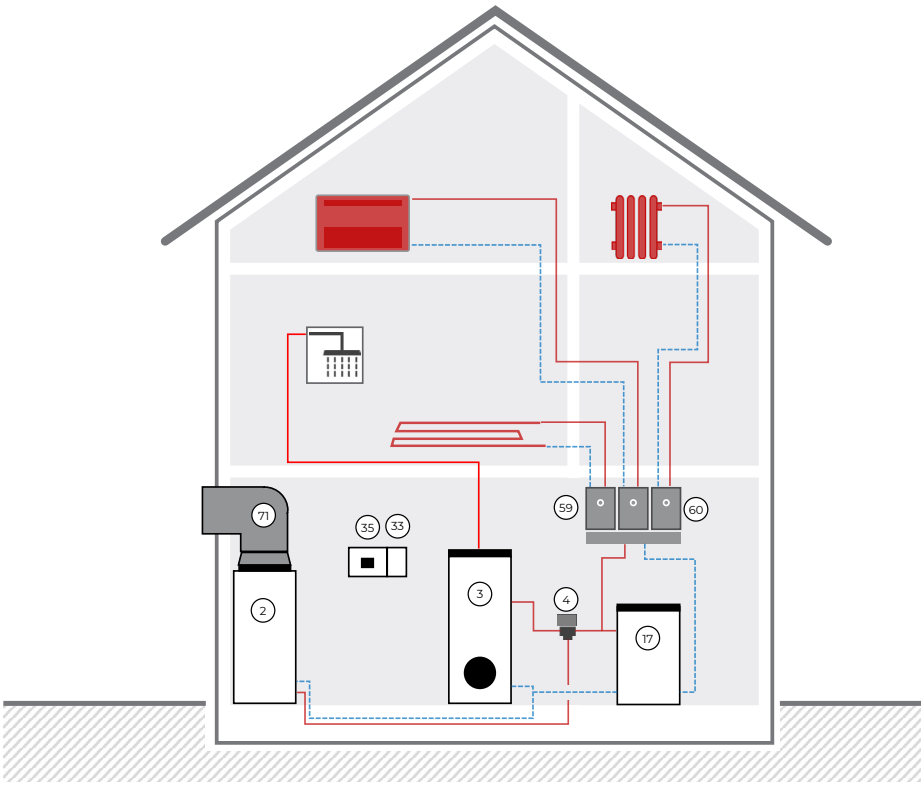


BASIC WIRING SCHEMATIC

VERSI-X + WR KSM 2

Legend

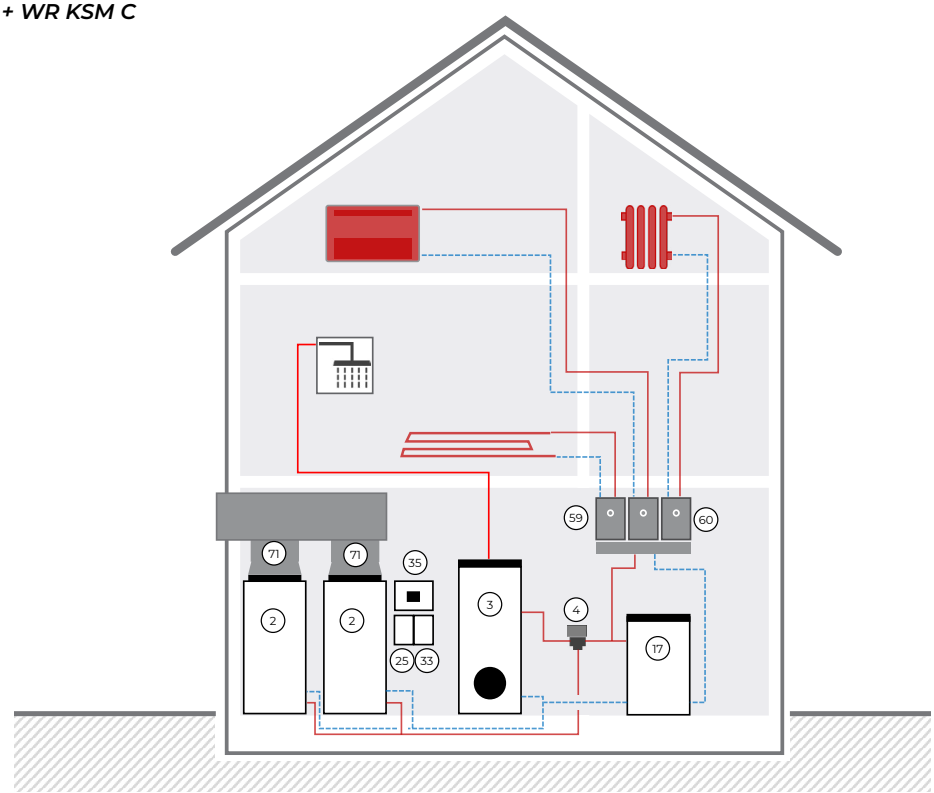
2 VERSI-X
3 DHW tank
4 3-way zone valve
17 Buffer tank
33 WR KSM+
35 WR KSM 2
60 Heating loop set – direct
59 Heating loop pump set – mixing
71 Flexible air ducts



VERSI-X + VERSI-X + WR KSM 2 + WR KSM+ + WR KSM C

Legend

2 VERSI-X
3 DHW tank
4 3-way zone valve
17 Buffer tank
25 WR KSM C
33 WR KSM+
35 WR KSM 2
60 Heating loop set – direct
59 Heating loop pump set – mixing
71 Flexible air ducts



BASIC WIRING SCHEMATIC

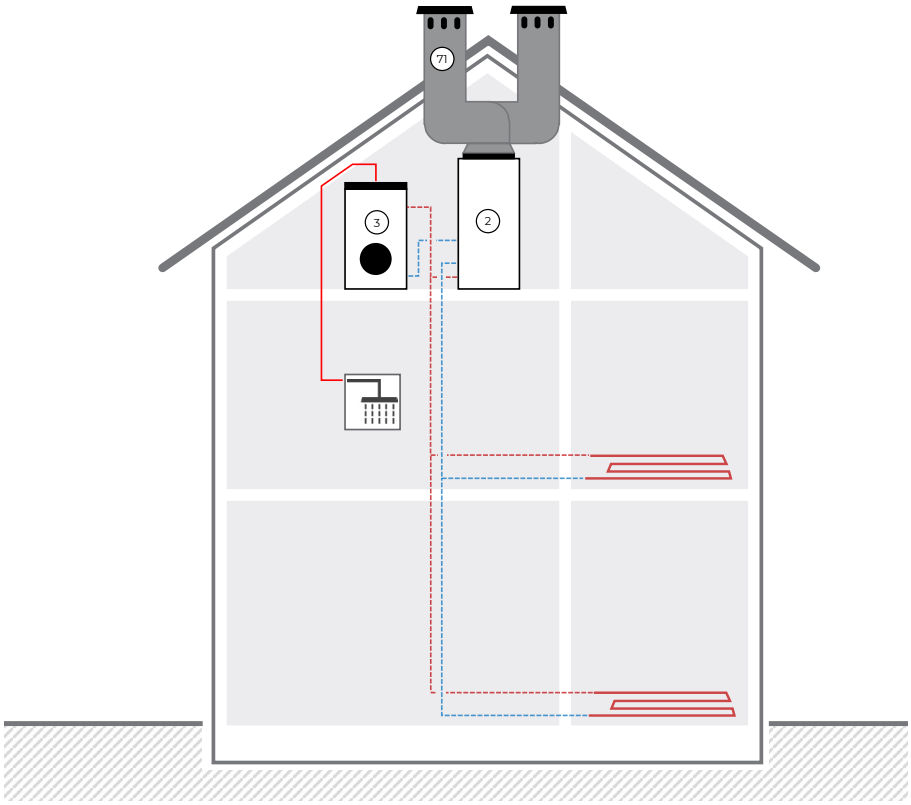
VERSI-I IN AN ATTIC

Legend

2 VERSI-I

3 DHW tank

71 Roof duct



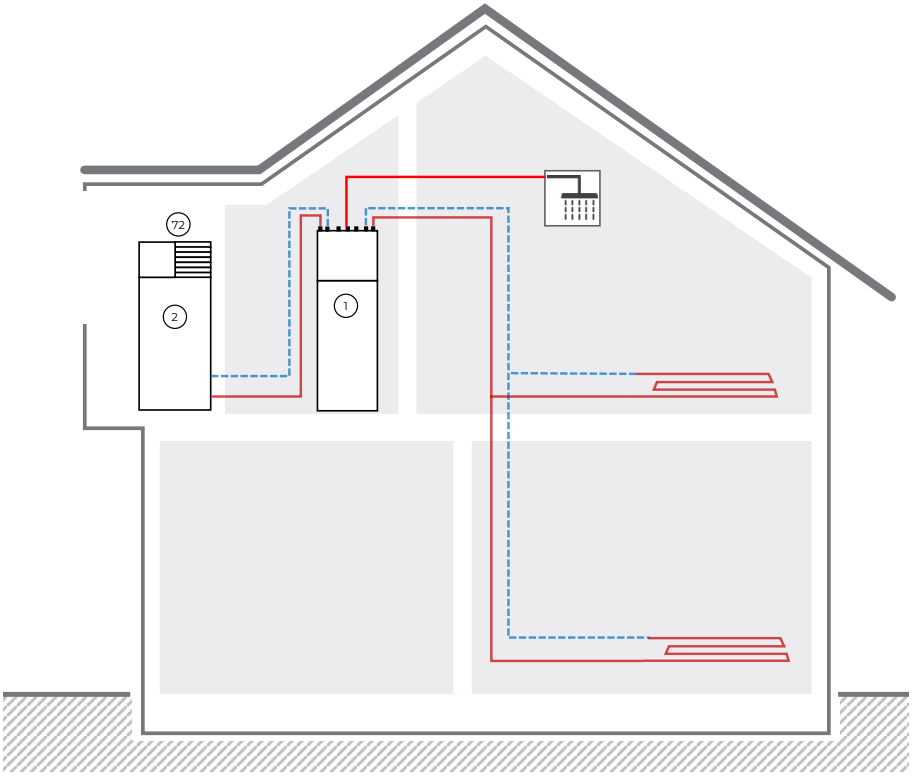
VERSI-X ON BALCONY

Legend

1 HYDRO C2

2 VERSI-X

72 Modular air deflector (MAD)



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