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KRONOTERM 1976
HEAT PUMPS



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DATA SHEET

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ADAPT
Heat pump

Data sheet - ADAPT - EN/98-19-24-5421-14

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

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DESCRIPTION

Description

Together with the HYDRO indoor unit the Kronoterm ADAPT heat pumps form a comprehensive variable system, adaptable in terms of both refrigerant and hydraulics, depending on the building's heating needs. The outdoor unit, a compact air/water heat pump, is distinguished by extremely silent operation and premium design. ADAPT heat pumps are hermetically sealed and factory tested outdoor units that use a simple water source to transfer energy to the indoor unit.

ADAPT heat pumps are distinguished by cutting-edge technology, specifications, and energy efficiency.

Usage

Heating, cooling, and making domestic hot water.

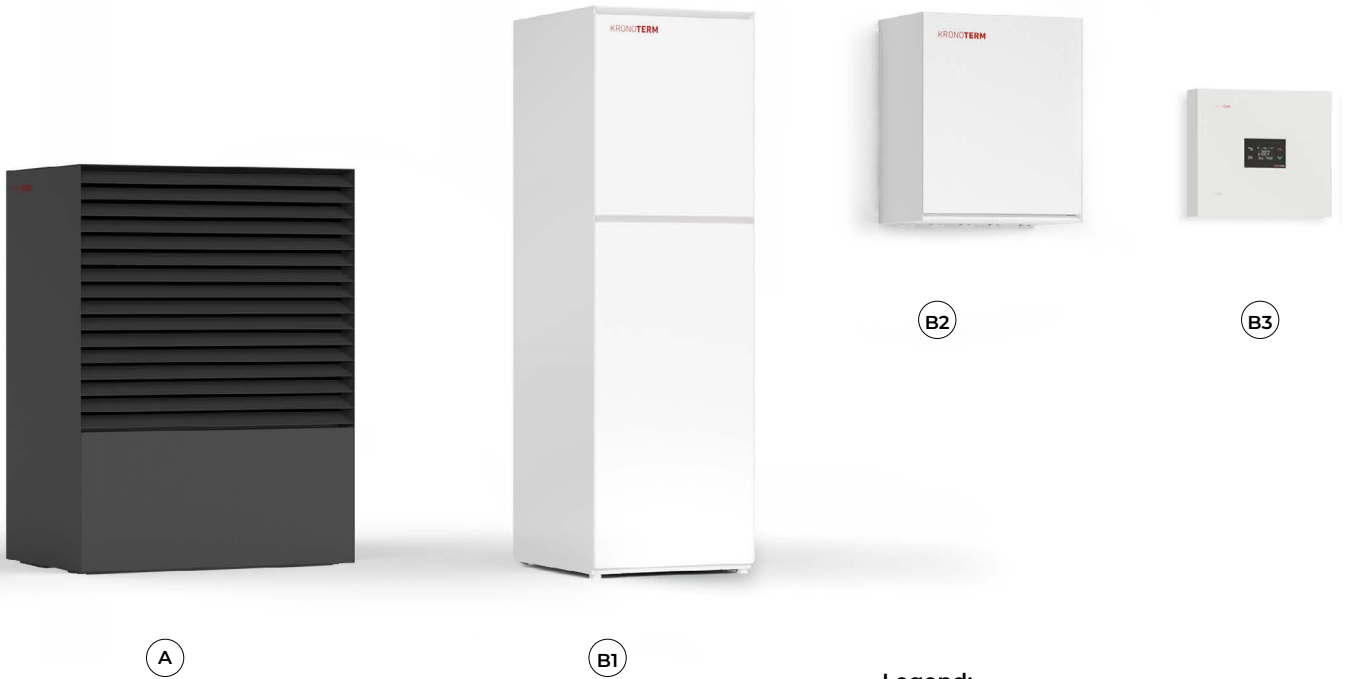
Technology

- MyDesign, the tailorable appearance of the outdoor ADAPT unit, gives customers plenty of choices for their favorite color and material.
- NMS™ – 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.
- CWP™ – Complete Weather Protection – protects the evaporator's surface and protective guards against climatic conditions while ensuring a constant and appropriate flow of air, first-level protection against indirect precipitation or flash freezes, small amounts of defrosting, higher efficiency, and more reliable operation. Their exceptional construction and advantageous height give ADAPT heat pumps the right amount of airflow through the evaporator even during snowstorms.
- IAHT™ – 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, the current ambient temperature indoor, and the current weather outdoor. The building's response dictates at what capacity the ADAPT heat pump needs to work. This unrivaled flexibility means that your heat pump works constantly, silently, and – most importantly – comfortable.
- Low GWP – Kronoterm is one of the first manufacturers in the world to use the advanced refrigerant R452B in our systems, drastically reducing the use of fluorinated gases (F-gases). This refrigerant has a whopping 67% less GWP than the traditional refrigerants used in heat pumps.
- CDHRS™ – the Compressor Drive Heat Recovery System – is the compressor's electronic motor, designed for twice the lifespan of traditional compressor motors. The specially designed system to recover waste heat helps achieve more than 96% efficiency.
- NZF™ – Near Zero Frost – the evaporator's extremely large surface area means that it has very low specific load. This results in reduced extraction of humidity from the air and slower buildup of frost. Less frost means less defrosting, and therefore greater effective heating capacity for the heat pump, and ultimately increased efficiency for the whole system.
- ECL™ – Enhanced Compressor Lifetime – an approach that is usually used in large, industrial systems. The 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.
- MHW™ – Max Hot Water – heats the entire volume of water available in the integrated DHW tank. The indoor HYDRO C2 unit, which features a 200 l DHW tank, utilizes a special plate heat exchanger to easily heat large quantities of DHW.
- RCS™ – Remote System Charge – refills the hydronic system with water to the right pressure and is integrated in the HYDRO unit. Refilling is either automatic with a command through the room unit, or from the web/mobile app.
- CMS™ – Cascade Management System gives you control and management of all heat pumps connected in the cascade solution via a single interface.



CONFIGURATION

ADAPT heat pumps are combined with the HYDRO C2, HYDRO S2 and WR KSM 2 indoor units.



Legend:

- A Outdoor unit
- B1 HYDRO C2 compact hydraulic indoor unit
- B2 HYDRO S2 hydraulic indoor wall unit
- B3 WR KSM 2 wall control unit

NOMENCLATURE

ADAPT 0312 K3 HT / HK 3F

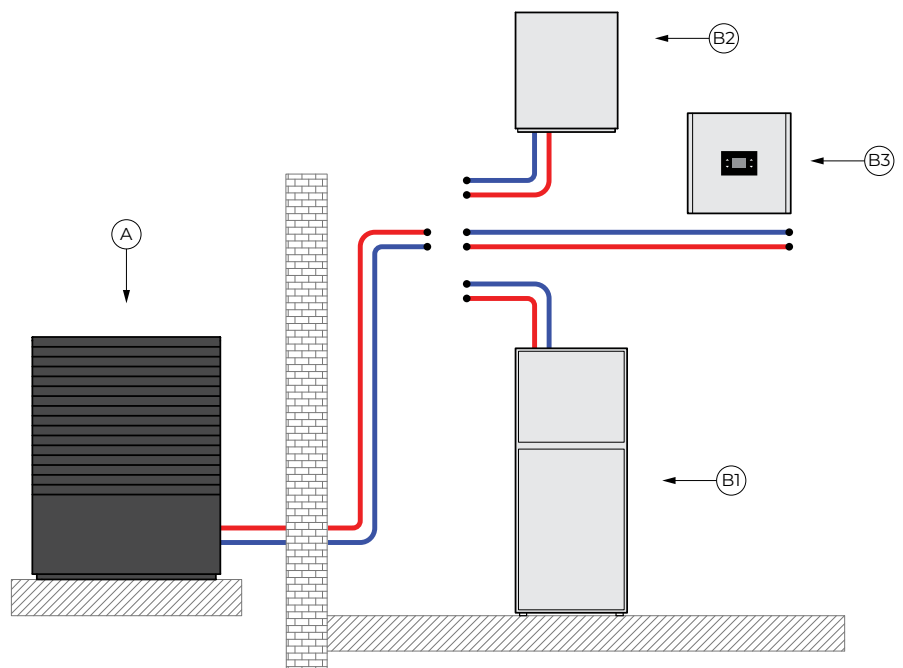
| | |
|--------------|--|
| ADAPT | The name for a line of heat pumps |
| 0312 | Range of heat output in kW, 3,5 - 09 |
| 0416 | Range of heat output in kW, 05 - 12 |
| 0724* | Range of heat output in kW, 07 - 18 |
| K | Water connection |
| 3 | Device generation |
| HT | Temperature of flow outlet up to 67 °C |
| HK | Heating and cooling |
| 3F/1F | Three-phase electrical connection 3 x 400 V/ one-phase connection 1 x 230 V |

HYDRO C2

| | |
|--------------|---|
| HYDRO | The name for a line of indoor hydraulic units |
| C2 | Hydraulic unit with integrated DHW tank |
| S2 | Basic, wall-mounted HYDRO module |

WR KSM 2

| | |
|--------------|---|
| WR | The name for a line of indoor wall regulator units |
| KSM | Basic wall-mounted control unit |
| KSM+ | Expansion wall-mounted control unit |
| KSM C | Wall-mounted control unit for additional heat pump in cascade |
| 2 | Device generation |



*The ADAPT 0724 outdoor unit cannot be used with the HYDRO C2 indoor unit

ADAPT OUTDOOR UNIT

Version

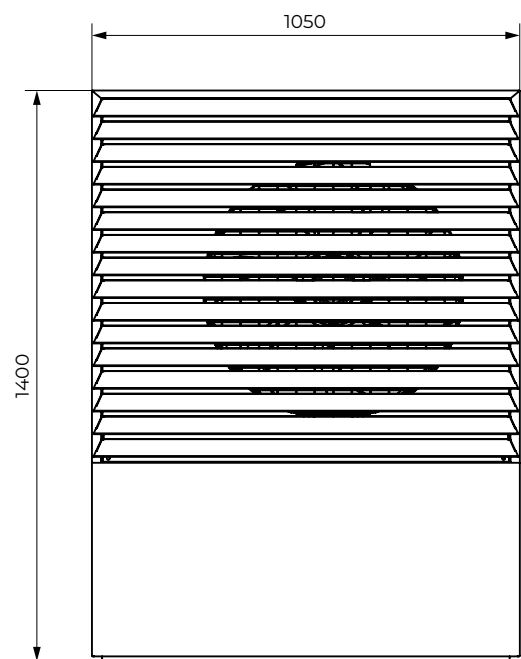
Compact outdoor air/water unit.

Model marks

ADAPT 0312 K3 HT / HK 3F
ADAPT 0312 K3 HT / HK 1F
ADAPT 0416 K3 HT / HK 3F
ADAPT 0416 K3 HT / HK 1F
ADAPT 0724 K3 HT / HK 3F

Description and dimensions

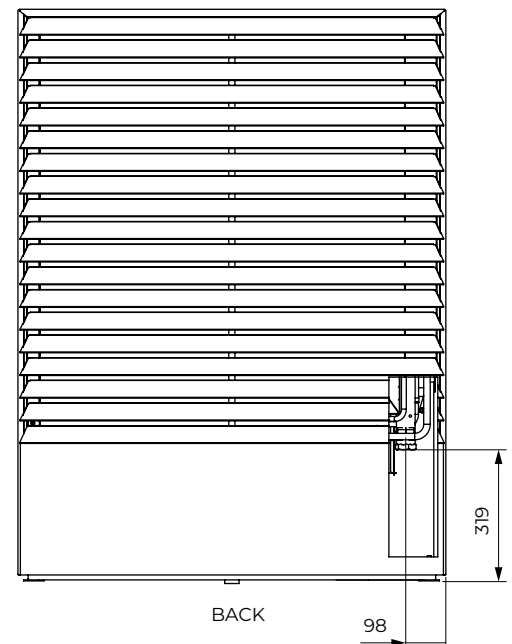
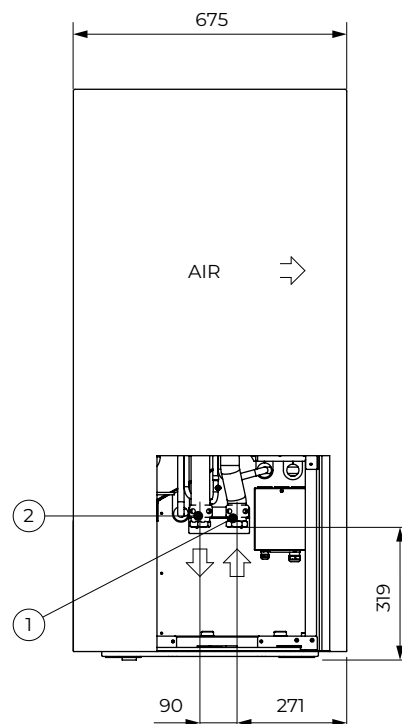
- Powder coated, zinc, steel plate housing
- Optionally made out of stainless steel or Corten sheet metal
- Evaporator and fan protected against the weather
- Bionically designed wings of fan for minimum noise pollution
- Adjustable heat output
- Adaptive heating
- Integrated circulation pump
- A large surface evaporator with a large gap between the fins
- Special acoustically insulated housing



FRONT

Legend

- 1 Inlet – G 5/4" IT
- 2 Outlet – G 5/4" IT



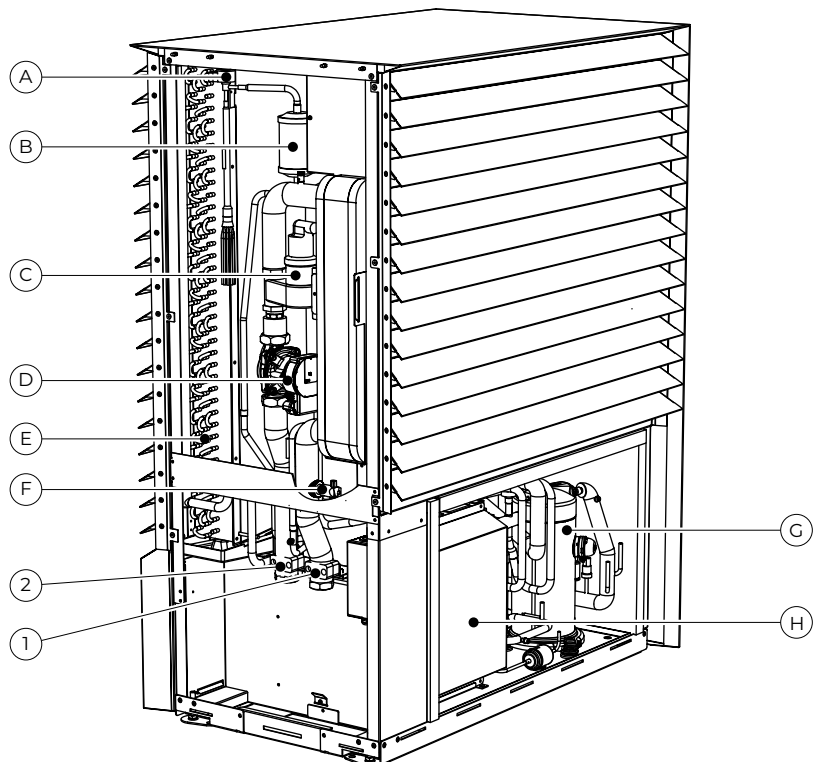
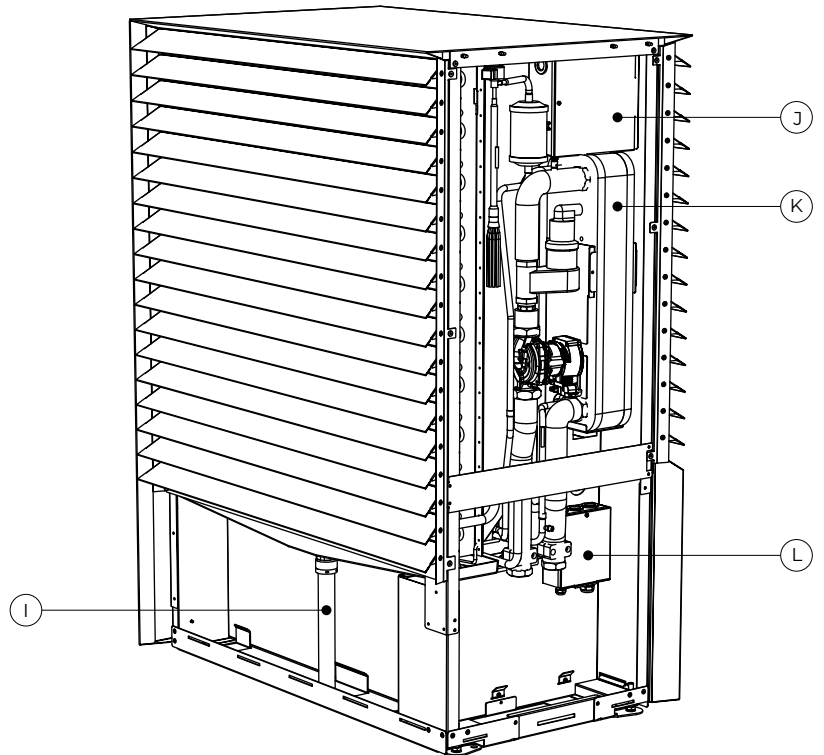
BACK

OUTDOOR UNIT ADAPT

Primary components

Legend

- 1 Inlet – G 5/4" IT
- 2 Outlet – G 5/4" IT
- A Electronic expansion valve
- B Dehydrator
- C Air separator
- D EC circulation pump
- E Evaporator
- F Flow switch
- G Compressor
- H Inverter drive
- I Condensation hose
- J Outdoor unit's controller's electrical cabinet
- K Plate heat exchanger/condenser
- L Electrical cabinet for power and communication connection



HYDRO C2 COMPACT HYDRAULIC INDOOR UNIT

Version

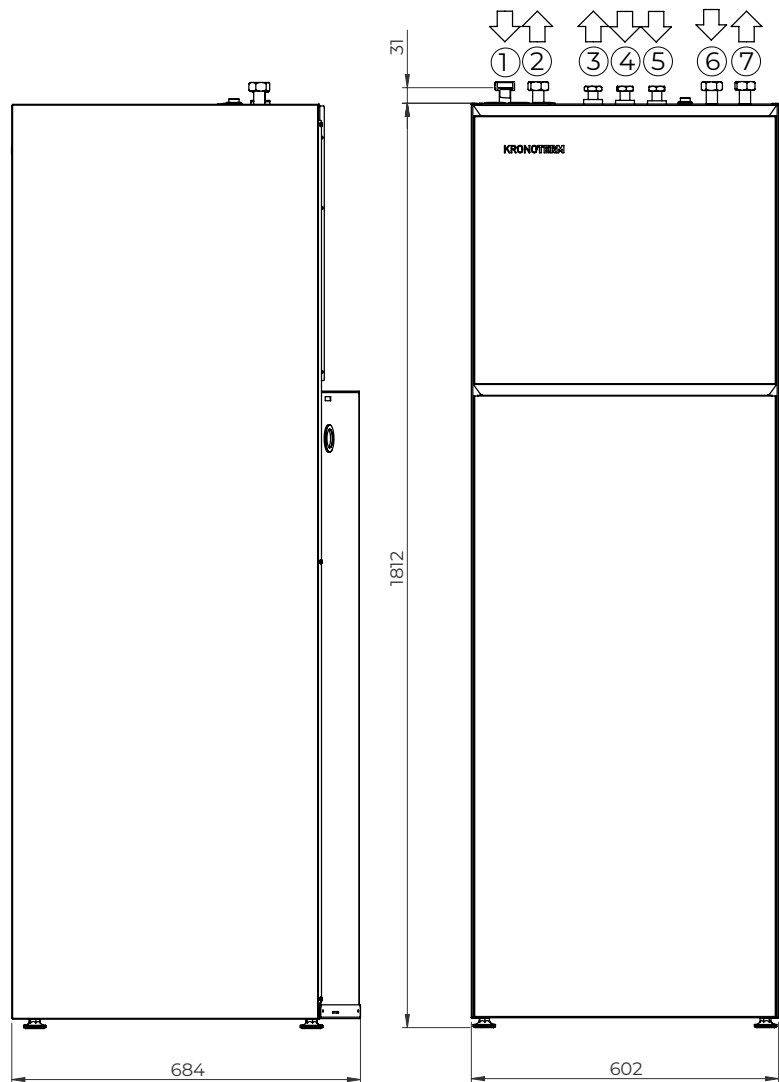
Indoor unit with DHW tank

Model

HYDRO C2

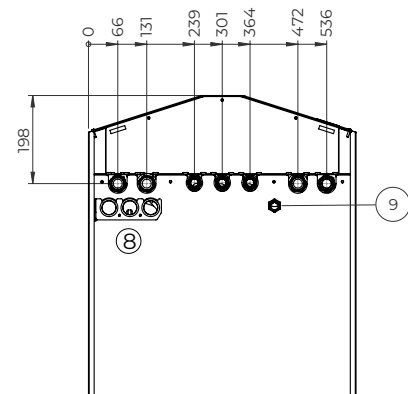
Description and dimensions

- Powder coated, zinc, 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 (8 l)
- Integrated heating system expansion vessel (12 l)
- Integrated 200 l DHW tank
- Optional additional 40 l buffer tank
- Optional additional kit for remote filling of heating system



Legend

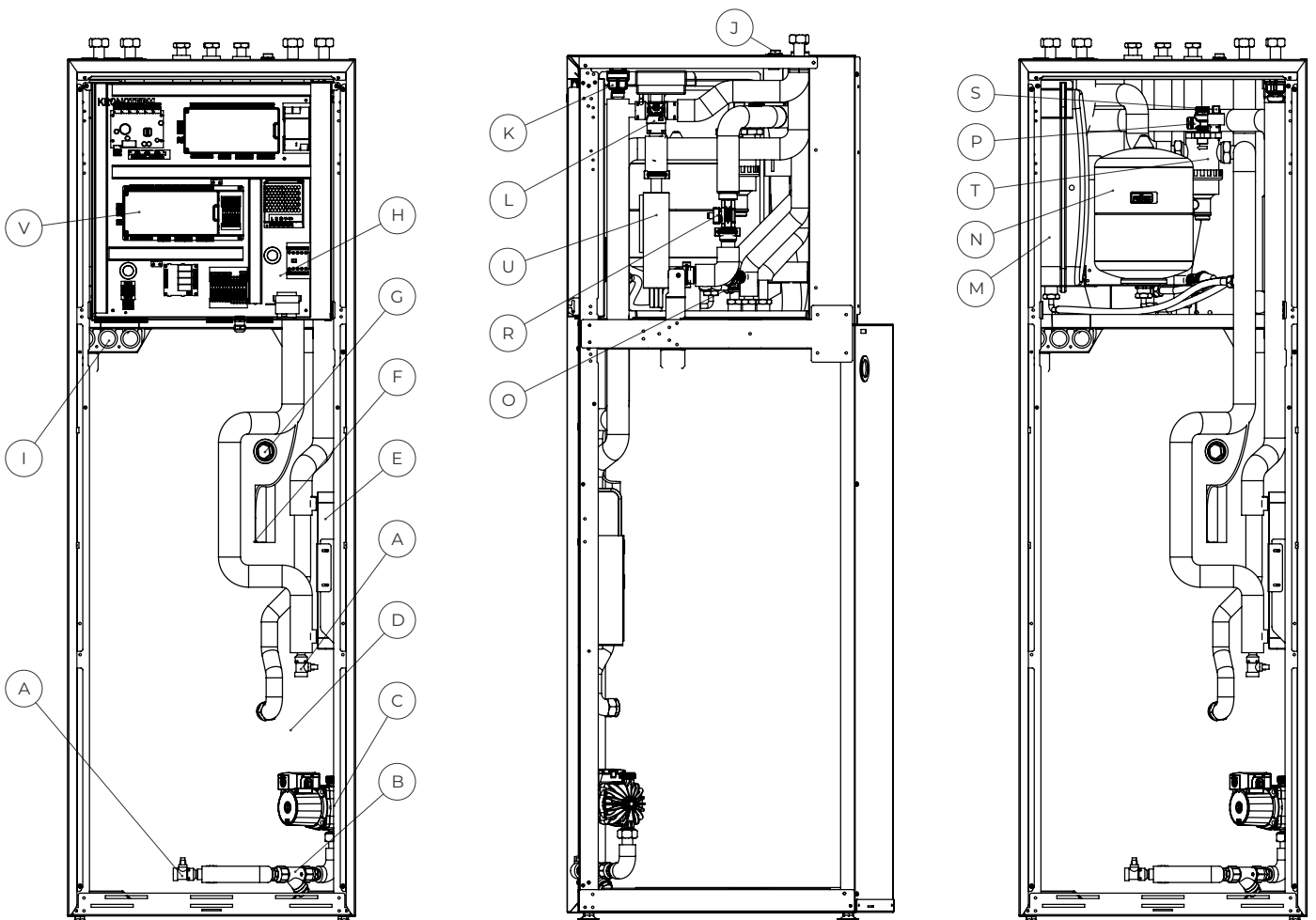
- 1 Inlet G 1" IT
- 2 Outlet G 1" IT
- 3 DHW G 3/4" IT
- 4 Cold tap water G 3/4" IT
- 5 Circulating DHW G 3/4" IT
- 6 Heating/cooling – inlet pipe – G 1" IT
- 7 Heating/cooling – outlet pipe – G 1" IT
- 8 Electrical connection
- 9 Internet cable jack

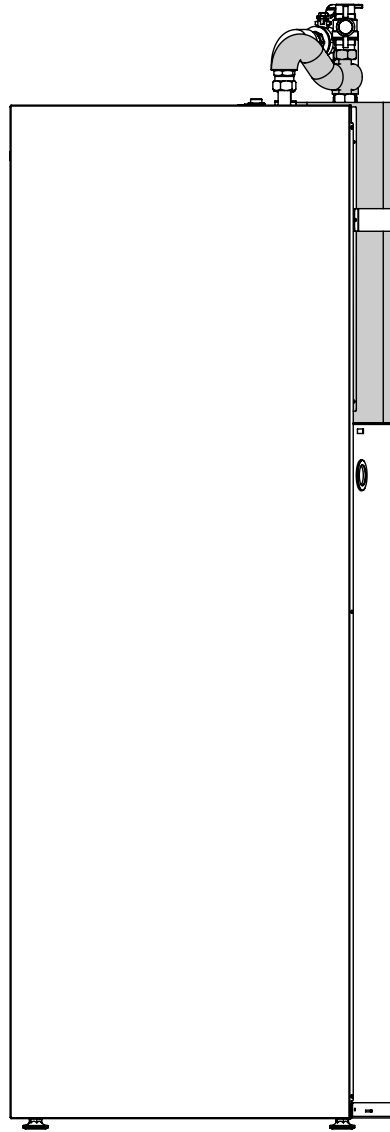


INDOOR UNIT HYDRO C2

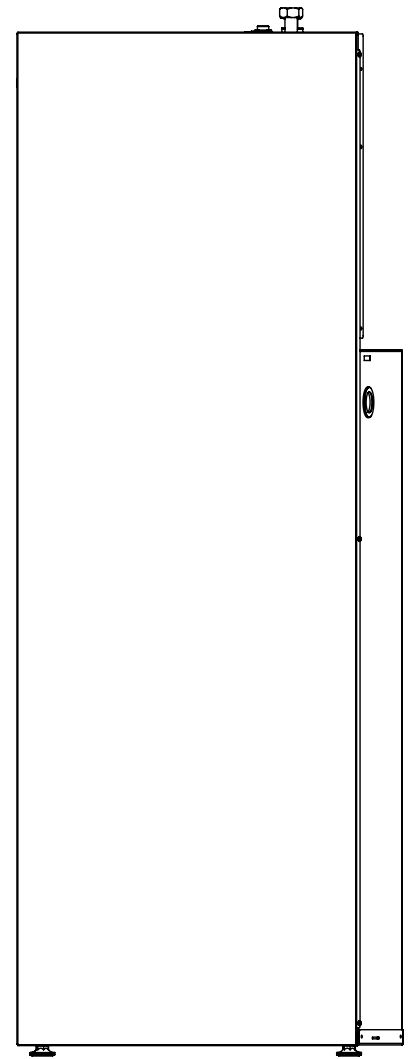
Primary components

- A Exhaust valve
- B DHW filter
- C Circulation 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+ 2 expansion module
- I Conduits for electric cables
- J Internet cable jack
- K Automatic air vent
- L 3-way zone valve
- M Expansion vessel – heating system – 12 l
- N Expansion vessel – DHW – 8 l
- O Safety valve – DHW – 10 bar
- P Safety valve – heating system – 3 bar
- 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

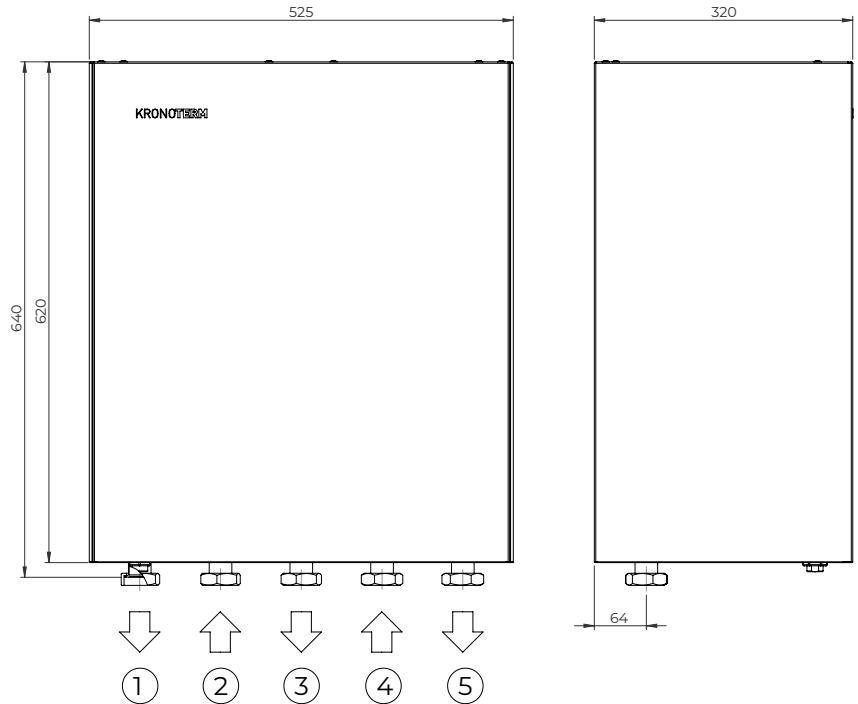
Indoor wall-mounted hydraulic unit.

Model

HYDRO S2

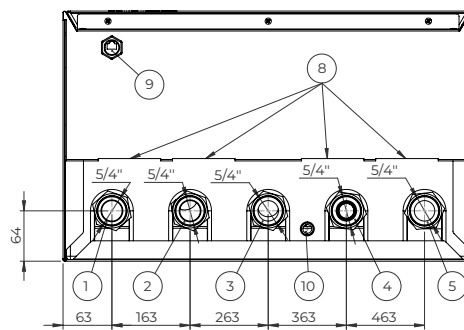
Description and dimensions

- Powder coated, zinc, 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 3 bar
- Optional additional kit for remote filling of heating system



Legend

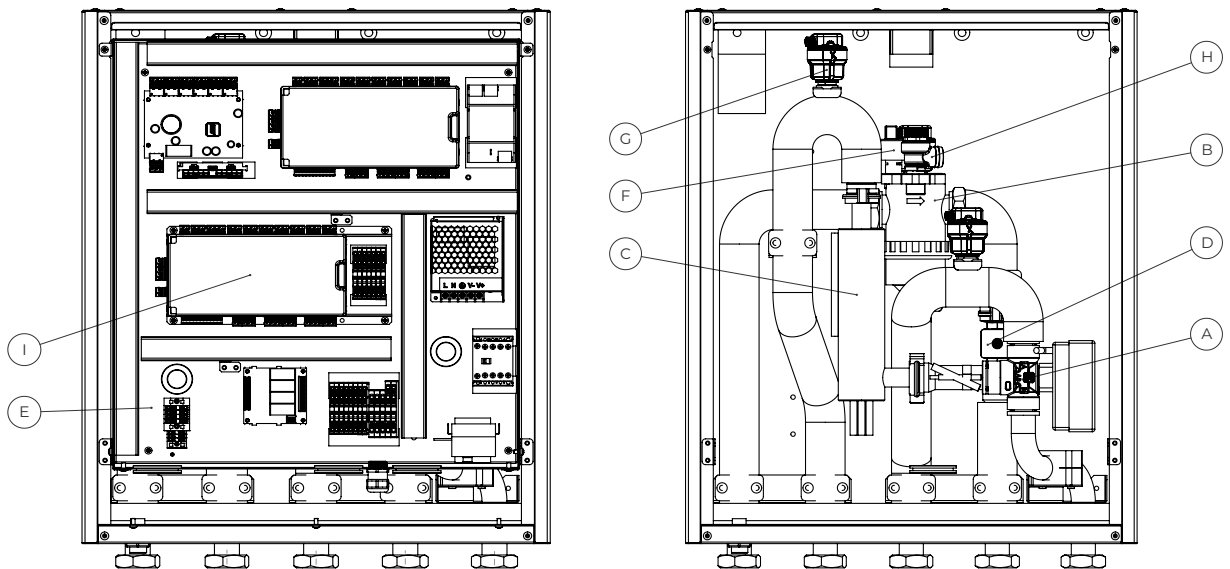
- 1 Outlet – G 5/4" IT
- 2 Inlet – G 5/4" IT
- 3 Heating DHW G 5/4" IT
- 4 Heating/cooling/heating DHW – inlet pipe – G 5/4" IT
- 5 Heating/cooling – outlet pipe – G 5/4" IT
- 8 Cable conduit
- 9 Internet cable jack
- 10 Connection for condensate drain



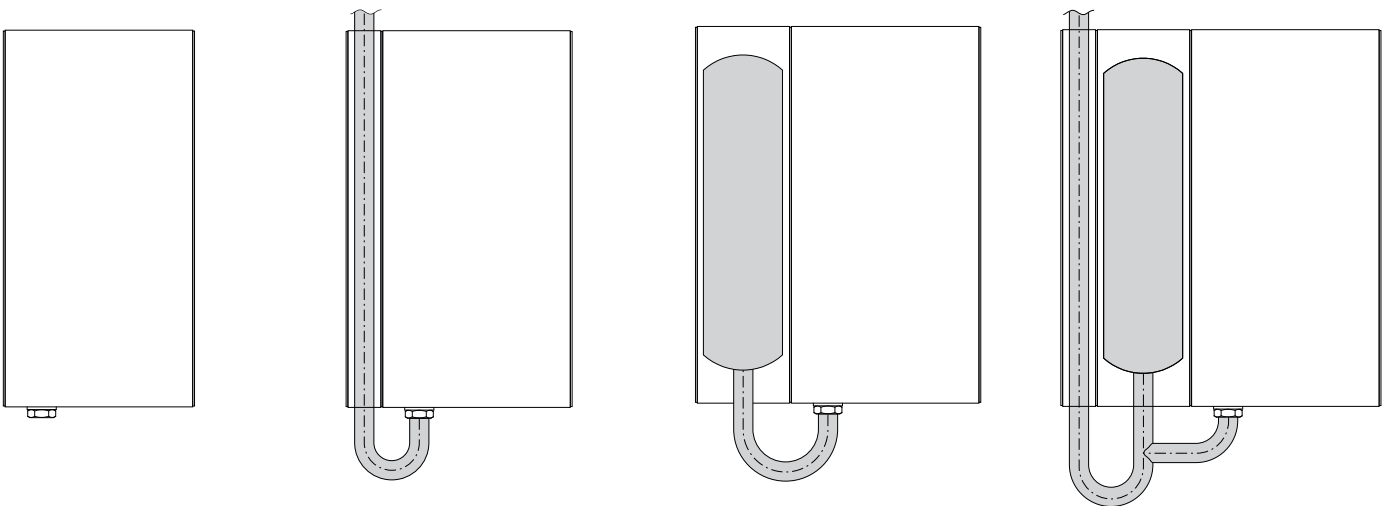
HYDRO S2 HYDRAULIC INDOOR WALL UNIT

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+ 2 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-MOUNTED CONTROL UNIT

Version

Basic wall-mounted unit

Model

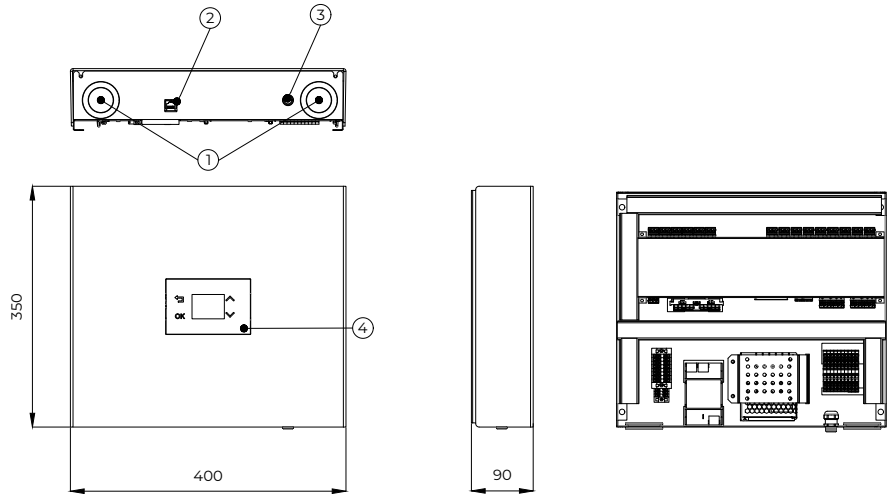
WR KSM 2

Description and dimensions

- Wall-mounted indoor unit
- KSM regulator
- 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

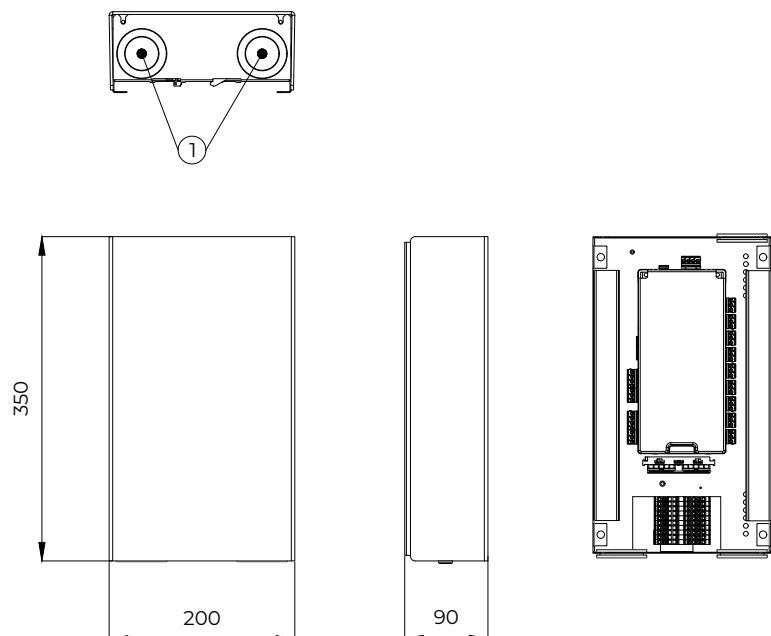
WR KSM+

Description and dimensions

- Wall-mounted indoor unit
- Regulator KSM+

Legend

- 1 Conduits for control cable



WR KSM C WALL-MOUNTED CONTROL UNIT

Version

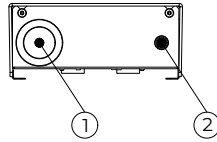
Indoor unit for activating an additional heat pump in cascade.

Model

WR KSM C

Description and dimensions

- Wall-mounted indoor unit
- Integrated WEB module

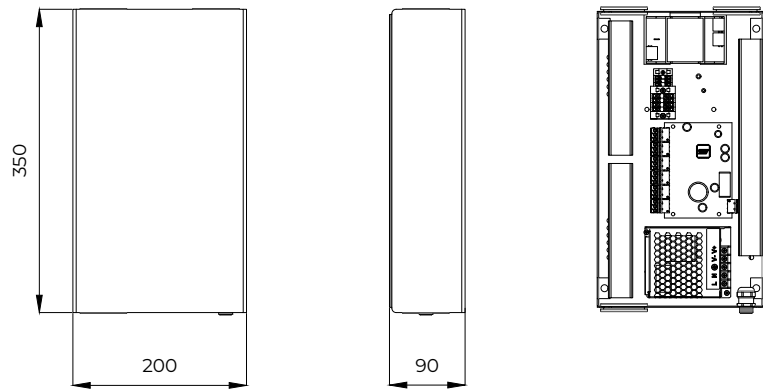


Functional characteristics

- Activate an additional heat pump in cascade
- Register a 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

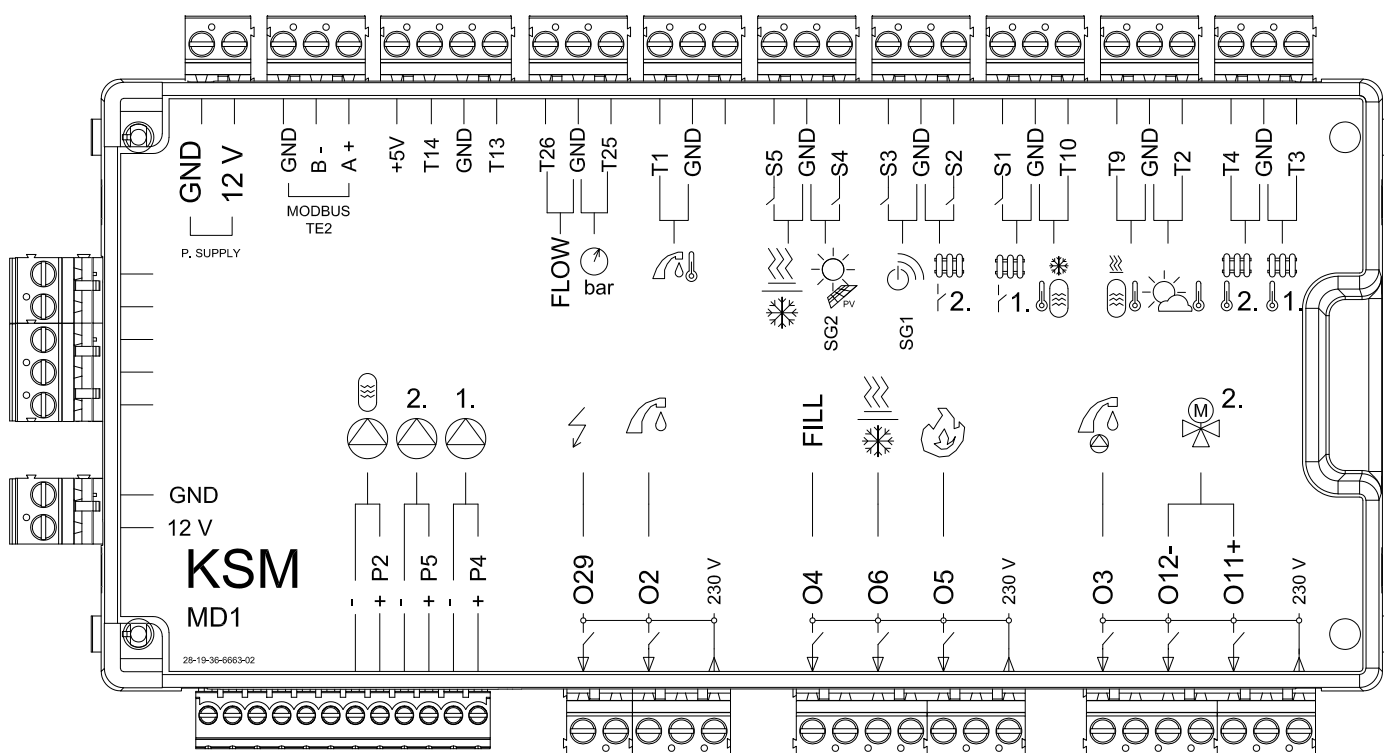
KSM (Kronoterm System Manager)

Description

- Basic regulator for heat pump and heating system
- Managing your system is either automatic with a command through the KT-2A room unit, or from the web/mobile Home.Cloud app.

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+ 2 REGULATOR

Model

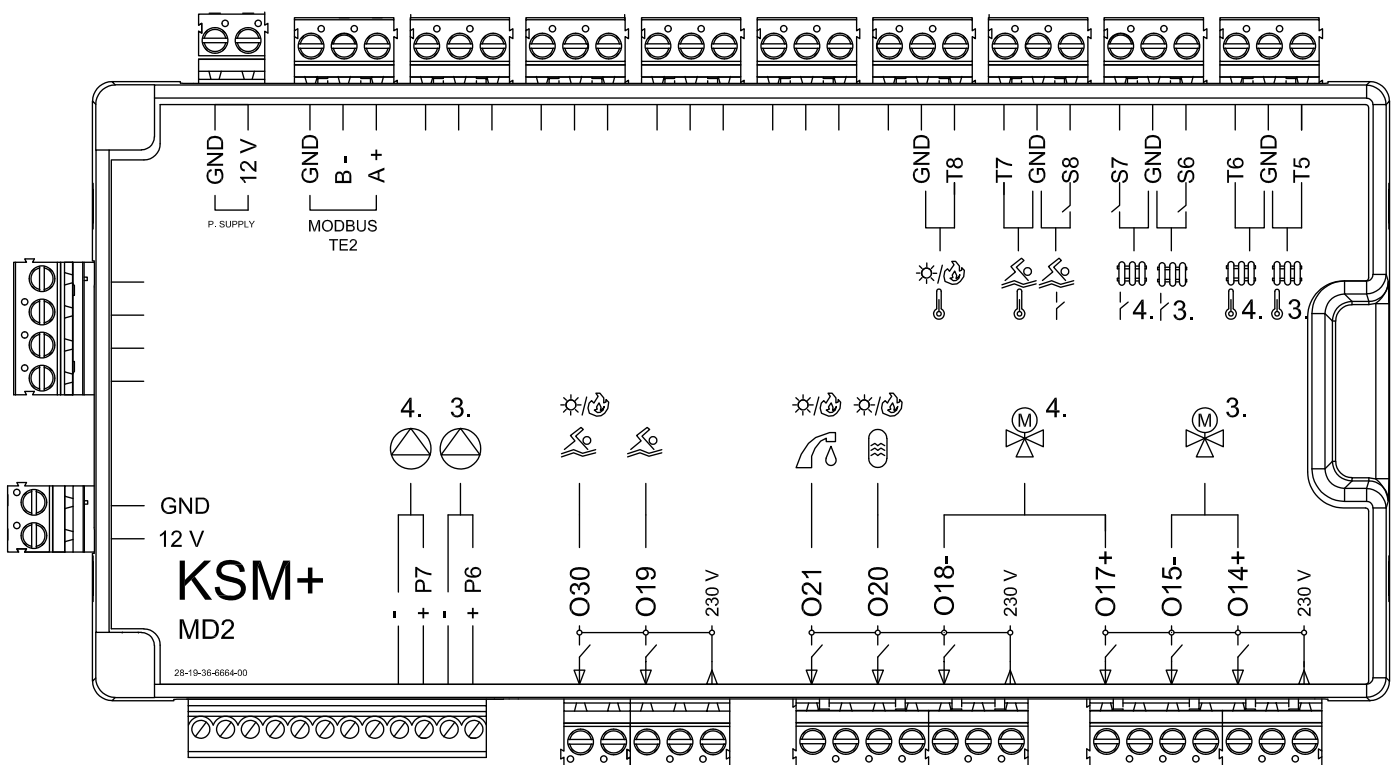
- KSM+ 2 (Kronoterm System Manager + 2)

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



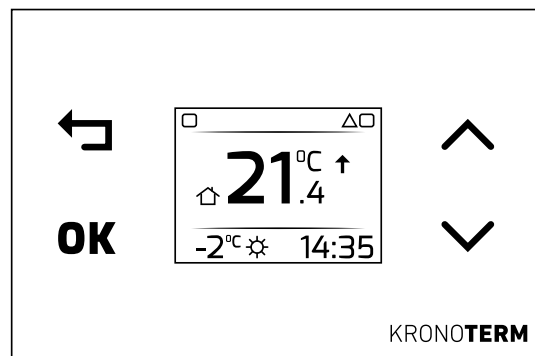
KT-2A CONTROLLER

Model type

KT-2A

Description

- Controller to control the ADAPT heat pump and the heating system
 - Controller for HYDRO C2 or HYDRO S2 hydraulic module
 - Control and protection of the heat pump
 - Controller for secondary system and DHW preparation
 - Control and setting of room temperature
 - Control and setting of the system operating mode heating/cooling
 - Selection of the interface and/or thermostat operating mode
 - Operating status indicators
 - Service access and troubleshooting
 - Ambient temperature measurement and display
 - Mode of operation of individual circuit
- Depending on the settings, the KT-2A controller can be used in three operating modes:
 - thermostat,
 - controller of the heat pump and the heating system,
 - thermostat and controller of the heat pump and the heating system
 - Forecast
 - 'Night' mode
 - Accuracy: 0.1 °C
 - Modbus RS485 connection
 - Color LCD display



KT-2A controller

KT-1 THERMOSTAT

Model

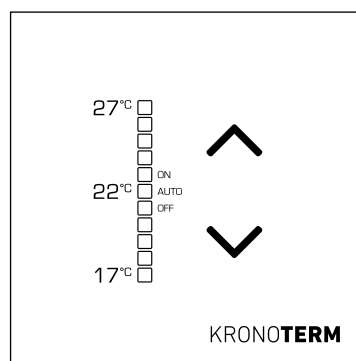
KT-1

Description

- Control and setting of the room temperature.
- Control and setting of the operating mode of the respective heating / cooling circuit.

Functional properties

- Ambient temperature measurement and display.
- Room temperature setting.
- Operating mode of the heating circuit (OFF / ON / AUTO).
- 'Night' mode.
- Accuracy: 0.1 °C.
- Setting range: 17 - 27 °C.
- Modbus RS485 connection.
- LED illumination.



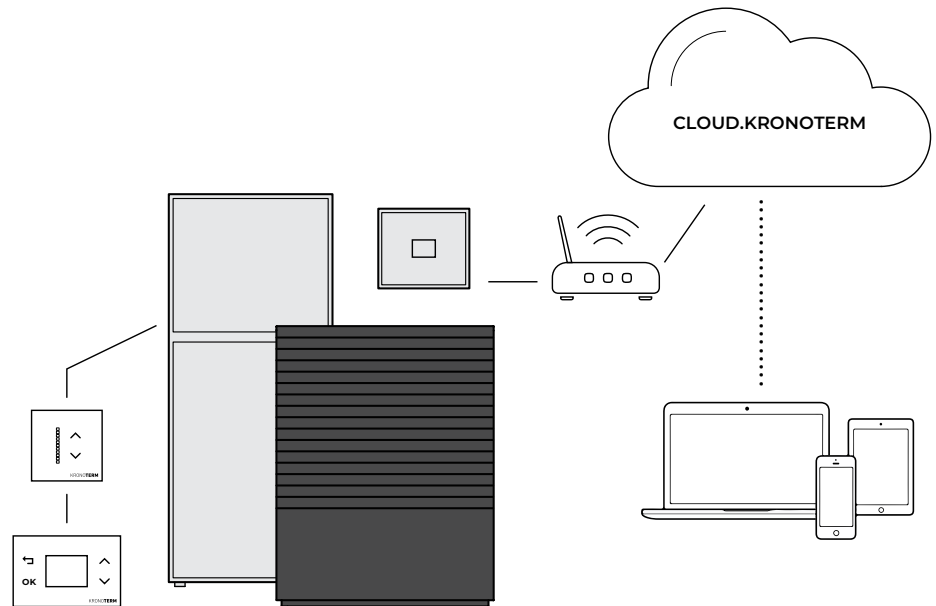
KT-1 thermostat

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 ADAPT SYSTEM

Auxiliary installation equipment

- Metal base for ADAPT
- Metal base for ADAPT - ground
- Concrete base for ADAPT
- Cover for ADAPT connecting pipes - straight (350 - 700 mm)
- Cover for ADAPT connecting pipes - angular

Electrical equipment

- ADAPT outdoor unit power cable (7m, 15m, 25m)
- HYDRO indoor unit power cable (7m, 15m, 25m)
- Communication cable between ADAPT outdoor and HYDRO or WR KSM 2 indoor unit (7m, 15m, 25m)
- Power supply cabinet with built-in circuit breakers - fuses (1PH and 3PH)
- Electricity meter for installation in an electrical cabinet (1PH and 3PH)
- Kit for upgrading a 2-core communication cable for connecting the KT-1 or KT-2A and KSM controller

- Relay module for HYDRO C2, HYDRO S2 and WR KSM 2 for controlling circulating pumps without PWM signal
- Pressure sensor kit for WR KSM 2 for measuring the heating water pressure in the heating system

Protective equipment

- Anti-freeze valve for discharging the heating water from the outdoor unit (1" and 5/4")
- ADAPT fan diffuser heating cable set for extreme operating conditions

Design equipment

- Additional set of ADAPT panels in basic colors OLIO, NERO, NEBBIA, ANTHRACITE and INDIVIDUAL
- Additional set of ADAPT panels made of INOX, CORTEN material

Marketing equipment

- ADAPT demo casing in versions NERO, OLIO, CORTEN
- Exhibition stand with wall for ADAPT demo casing

Training equipment

- ADAPT heat pump operation simulator

TECHNICAL DATA - OUTDOOR UNIT

| APPLIANCE | Unit | ADAPT 0312 | ADAPT 0416 | ADAPT 0724 |
|---------------------------------------|------|--|--|--|
| DEDICATED INDOOR UNIT | | | | |
| Label | | HYDRO S2, HYDRO C2, WR KSM 2 | HYDRO S2, HYDRO C2, WR KSM 2 | HYDRO S2, WR KSM 2 |
| VERSION | | | | |
| Heat source | | Air | Air | Air |
| Heat sink | | Water | Water | Water |
| Controller | | KSM | KSM | KSM |
| Heat pump location | | Outdoor | Outdoor | Outdoor |
| Controller position | | In the indoor unit | In the indoor unit | 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 | In the indoor unit | In the indoor unit |
| Zone valve | | In the indoor unit | In the indoor unit | In the indoor unit |
| Flow sensor | | In the indoor unit | In the indoor unit | In the indoor unit |
| Flow switch | | Integrated | Integrated | Integrated |
| Pressure sensor in the heating system | | In the indoor unit | In the indoor unit | In the indoor unit |
| Circulation pump, secondary | | Integrated | Integrated | Integrated |
| Safety valve for heating system | | In the indoor unit | In the indoor unit | 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/- | 9,0 / 1,80 / 5,00 | 12,0 / 2,35 / 5,10 | 18,0 / 3,67 / 4,90 |
| A2/W30-35 | kW/kW/- | 9,0 / 2,22 / 4,05 | 12,0 / 2,93 / 4,10 | 18,0 / 4,86 / 3,70 |
| A-7/W30-35 | kW/kW/- | 8,5 / 2,62 / 3,25 | 11,0 / 3,49 / 3,15 | 15,7 / 5,15 / 3,05 |
| A-10/W30-35 | kW/kW/- | 8,1 / 2,61 / 3,10 | 10,8 / 3,55 / 3,10 | 15,6 / 5,20 / 3,00 |
| A7/W47-55 | kW/kW/- | 9,0 / 3,00 / 3,00 | 12,0 / 3,87 / 3,10 | 18,0 / 5,54 / 3,25 |
| A-10/W47-55 | kW/kW/- | 7,5 / 3,66 / 2,05 | 10,3 / 5,02 / 2,05 | 15,4 / 7,00 / 2,20 |
| COOLING | | Cooling capacity / electrical power / EER | Cooling capacity / electrical power / EER | Cooling capacity / electrical power / EER |
| A35/W12-7 | kW/kW/- | 8,0 / 3,14 / 2,55 | 11,0 / 4,23 / 2,60 | 18,0 / 7,83 / 2,30 |
| A35/W23-18 | kW/kW/- | 8,0 / 2,00 / 4,00 | 11,0 / 2,75 / 4,00 | 18,0 / 4,93 / 3,65 |

*The information applies for the OPTIMAL operation mode of HP.

| APPLIANCE | Unit | ADAPT 0312-K3 HT / HK 1F | ADAPT 0416-K3 HT / HK 1F |
|---|------|--------------------------|--------------------------|
| SEASONAL ENERGY EFFICIENCY FOR HEATING ACCORDING TO DIRECTIVE (EU) 811/2013 – DATA SHEET | | | |
| Temperature mode | °C | 35 / 55 | 35 / 55 |
| Rate of seasonal energy efficiency | | A+++ / A++ | A+++ / A++ |
| Rated heating capacity $P_{designh}$, average climate zone | kW | 8,1 / 7,4 | 11,1 / 10,4 |
| Seasonal space heating energy efficiency η_s , average climate zone | % | 194 / 139 | 197 / 144 |
| Annual energy consumption average climate zone | kWh | 3295 / 4192 | 4475 / 5734 |
| Declared load profile for water heating usage* | | XL | XL |
| Class for seasonal water heating energy efficiency determined in average climate zone* | | A | A+ |
| Seasonal water heating energy efficiency determined in average climate zone* | % | 116 | 127 |
| Annual energy consumption for water heating in average climate zone* | kWh | 1446 | 1320 |
| Level of acoustic power L_{WA} , indoor | dB | - | - |
| Rated heating capacity $P_{designh}$ cold climate zone | kW | 9,5 / 8,5 | 12,5 / 11,5 |
| Rated heating capacity $P_{designh}$ warm climate zone | kW | 8,2 / 7,7 | 11,2 / 10,6 |
| Seasonal space heating energy efficiency η_s , cold climate zone | % | 173 / 127 | 175 / 132 |
| Seasonal space heating energy efficiency η_s , warm climate zone | % | 234 / 170 | 237 / 171 |
| Annual energy consumption cold climate zone | kWh | 5337 / 6444 | 6923 / 8394 |
| Annual energy consumption warm climate zone | kWh | 1853 / 2379 | 2496 / 3254 |
| Level of acoustic power L_{WA} , outdoor | dB | 42 | 46 |

*Only with indoor unit Hydro C2

SEASONAL ENERGY EFFICIENCY FOR HEATING ACCORDING TO DIRECTIVE (EU) 811/2013 – DATA SHEET FOR COMPLETE SPATIAL HEATERS

| | | | |
|--|----|------------|------------|
| Controller model | | KSM | KSM |
| Temperature mode | °C | 35 / 55 | 35 / 55 |
| Class of controller for adjusting temperature | | VI | VI |
| Temperature controller's contribution to seasonal efficiency | % | 4,0 | 4,0 |
| Energy efficiency class for the whole set | | A+++ / A++ | A+++ / A++ |
| Seasonal space heating energy efficiency η_s f or the whole set, average climate zone | % | 198 / 143 | 201 / 148 |
| Seasonal space heating energy efficiency η_s , cold climate zone | % | 177 / 131 | 179 / 136 |
| Seasonal space heating energy efficiency η_s for the whole set, warm climate zone | % | 238 / 174 | 241 / 175 |

SEASONAL HEATING CAPACITIES ACCORDING TO STANDARD EN 14825

| | | | |
|---|---------|-------------|-------------|
| Rated heating capacity $P_{designh}$ 35°C / 55°C – average climate zone | kW / kW | 8,1 / 7,4 | 11,1 / 10,4 |
| SCOP, 35°C/55°C – average climate zone | - / - | 5,08 / 3,65 | 5,12 / 3,75 |
| Rated heating capacity $P_{designh}$ 35°C / 55°C – warm climate zone | kW / kW | 8,2 / 7,7 | 11,2 / 10,6 |
| SCOP, 35°C/55°C – warm climate zone | - / - | 5,98 / 4,36 | 6,05 / 4,38 |
| Rated heating capacity $P_{designh}$ 35°C / 55°C – cold climate zone | kW / kW | 9,5 / 8,5 | 12,5 / 11,5 |
| SCOP, 35°C/55°C – cold climate zone | - / - | 4,39 / 3,25 | 4,45 / 3,38 |

| APPLIANCE | Unit | ADAPT 0312-K3 HT / HK 3F | ADAPT 0416-K3 HT / HK 3F | ADAPT 0724-K3 HT / HK 3F |
|---|------|--------------------------|--------------------------|--------------------------|
| 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 | 8,4 / 7,8 | 11,0 / 10,3 | 15,6 / 15,5 |
| Seasonal space heating energy efficiency η_s , average climate zone | % | 188 / 137 | 201 / 141 | 195 / 150 |
| Annual energy consumption average climate zone | kWh | 3520 / 4510 | 4365 / 5801 | 6420 / 8262 |
| Declared load profile for water heating usage* | | XL | XL | - |
| Class for seasonal water heating energy efficiency determined in average climate zone* | | A | A+ | - |
| Seasonal water heating energy efficiency determined in average climate zone* | % | 115 | 131 | - |
| Annual energy consumption for water heating in average climate zone* | kWh | 1453 | 1280 | - |
| Level of acoustic power L_{WA} , indoor | dB | - | - | - |
| Rated heating capacity $P_{designh}$, cold climate zone | kW | 9,5 / 8,5 | 12,5 / 11,5 | 17,3 / 17,0 |
| Rated heating capacity $P_{designh}$, warm climate zone | kW | 8,2 / 7,7 | 11,2 / 10,6 | 16,8 / 16,5 |
| Seasonal space heating energy efficiency η_s , cold climate zone | % | 173 / 127 | 175 / 132 | 174 / 134 |
| Seasonal space heating energy efficiency η_s , warm climate zone | % | 234 / 170 | 237 / 171 | 233 / 178 |
| Annual energy consumption cold climate zone | kWh | 5337 / 6444 | 6923 / 8394 | 9651 / 12229 |
| Annual energy consumption warm climate zone | kWh | 1853 / 2379 | 2496 / 3254 | 3813 / 4863 |
| Level of acoustic power L_{WA} , outdoor | dB | 42 | 46 | 53 |

*Only with indoor unit HYDRO C2

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 |
| Energy efficiency class for the whole set | | A+++ / A++ | A+++ / A++ | A+++ / A+++ |
| Seasonal space heating energy efficiency η_s f or the whole set, average climate zone | % | 192 / 141 | 205 / 145 | 199 / 154 |
| Seasonal space heating energy efficiency η_s , cold climate zone | % | 177 / 131 | 179 / 136 | 178 / 138 |
| Seasonal space heating energy efficiency η_s for the whole set, warm climate zone | % | 238 / 174 | 241 / 175 | 237 / 182 |

SEASONAL HEATING CAPACITIES ACCORDING TO STANDARD EN 14825

| | | | | |
|---|---------|-------------|-------------|-------------|
| Rated heating capacity $P_{designh}$ 35°C / 55°C – average climate zone | kW / kW | 8,4 / 7,8 | 11,0 / 10,3 | 15,6 / 15,5 |
| SCOP, 35°C/55°C – average climate zone | - / - | 4,92 / 3,57 | 5,20 / 3,66 | 5,02 / 3,88 |
| Rated heating capacity $P_{designh}$ 35°C / 55°C – warm climate zone | kW / kW | 8,2 / 7,7 | 11,2 / 10,6 | 16,8 / 16,5 |
| SCOP, 35°C/55°C – warm climate zone | - / - | 5,98 / 4,36 | 6,05 / 4,38 | 5,92 / 4,55 |
| Rated heating capacity $P_{designh}$ 35°C / 55°C – cold climate zone | kW / kW | 9,5 / 8,5 | 12,5 / 11,5 | 17,3 / 17,0 |
| SCOP, 35°C/55°C – cold climate zone | - / - | 4,39 / 3,25 | 4,45 / 3,38 | 4,42 / 3,43 |

| APPLIANCE | Unit | ADAPT 0312 | ADAPT 0416 | ADAPT 0724 |
|---|------------------------|--|--|--|
| ELECTRICAL DATA* | | | | |
| ELECTRICAL DATA 1F | | | | |
| Nominal voltage | | ~ 230 V; 50 Hz | ~ 230 V; 50 Hz | / |
| Max. operation current | A | 18,6 | 23,1 | / |
| Max. electrical power | kW | 4,1 | 5,2 | / |
| Fuses | A | 1 x C20 | 1 x C25 | / |
| Electrical power cable*** | mm² | 3 x 2,5 (H05VV-F) | 3 x 4,0 (H05VV-F) | / |
| ELECTRICAL DATA 1F | | | | |
| Nominal voltage | | 3N~ 400 V; 50 Hz | 3N~ 400 V; 50 Hz | 3N~ 400 V; 50 Hz |
| Max. operation current | A | 7,6 | 10,4 | 17 |
| Max. electrical power | kW | 4,5 | 6,2 | 9 |
| Fuses | A | 3 x C10 | 3 x C10 | 3 x C20 |
| Electrical power cable*** | mm² | 5 x 2,5 (H05VV-F) | 5 x 2,5 (H05VV-F) | 5 x 4,0 (H05VV-F) |
| COMMUNICATION | | | | |
| Connection between outdoor and indoor unit | | FTP 5e kabel/2x2x0,6 mm ² (LiYCY) | FTP 5e kabel/2x2x0,6 mm ² (LiYCY) | FTP 5e kabel/2x2x0,6 mm ² (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%/17%/26%) | HFC- 452B (HFC-32, HFO-1234yf, HFC-125; 67%/17%/26%) | HFC- 452B (HFC-32, HFO-1234yf, HFC-125; 67%/17%/26%) |
| GWP (global warming potential) | | 676 | 676 | 676 |
| Refrigerant - quantity | kg | 2,9 | 4,2 | 5,0 |
| Max. Operating pressure | MPa | 4,5 | 4,5 | 4,5 |
| PRIMARY SIDE (HEAT SOURCE) – AIR | | | | |
| Air flow | m³/h | 1700-3000 | 2000-3500 | 2400-4900 |
| SECONDARY SIDE (HEAT SINK) – WATER | | | | |
| INTEGRATED CIRCULATION PUMP | | | | |
| Rated flow at maximum heating capacity and ΔT 5K according to standard EN 14511 | m³/h | 1,56 | 2,08 | 3,12 |
| Maximum available external pressure drop at rated flow | kPa | 56 | 42 | 45 |
| Max. electrical power | W | 75 | 75 | 140 |
| HEATING | | | | |
| Operating envelope - min./ max. water temperature | °C | -25 / 40 | -25 / 40 | -25 / 40 |
| COOLING | | | | |
| Operating envelope - min./ max. water temperature | °C | 0 / 40 | 0/40 | 0 / 40 |
| DIMENSIONS AND MASS - TRANSPORT | | | | |
| Dimensions (W x H x D) | mm | 1150 x 1550 x 770 | 1150 x 1550 x 770 | 1150 x 1550 x 770 |
| Mass 3F | kg | 245 | 254 | 266 |
| Mass 1F | kg | 235 | 244 | / |
| DIMENSIONS AND MASS - NET | | | | |
| Dimensions (W x H x D) | mm | 1050 x 1400 x 675 | 1050 x 1400 x 675 | 1050 x 1400 x 675 |
| Mass 3F | kg | 233 | 232 | 243 |
| Mass 1F | kg | 213 | 222 | / |

*This information is for use with an activated 4 kW electric heater.

***Tu = 0°C/Tk = 60°C/f = 120 Hz

TECHNICAL DATA - INDOOR UNIT

| APPLIANCE | Unit | HYDRO S2 | | HYDRO C2 | |
|--|-----------------|--|------------------|--|------------------|
| ELECTRICAL DATA* | | | | | |
| ELECTRICAL DATA 1F | | | | | |
| Frequency | Hz | 50 | 50 | 50 | 50 |
| Nominal voltage | V | ~ 230 V | ~ 230 V | ~ 230 V | ~ 230 V |
| 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 | mm ² | 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 ~230 V | | 3 x 2 kW ~230 V | |
| 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 | mm ² | 5 x 2,5 | | 5 x 2,5 | |
| Type of power cable | | H05VV-F | | H05VV-F | |
| <i>*For system Max. power, power cables and fuse dimensions, see Installation guidelines</i> | | | | | |
| SECONDARY SIDE (HEAT SINK) – WATER | | | | | |
| Minimum rated diameter of the pipe to ADAPT 0312 and 0416 | DN | 25 | | 25 | |
| Minimum rated diameter of the pipe to ADAPT 0724 | DN | 32 | | / | |
| Maximum available pressure drop at rated flow ADAPT 0312* | kPa | 11,5 | | 20 | |
| Maximum available pressure drop at rated flow ADAPT 0416* | kPa | 20 | | 26 | |
| Maximum available pressure drop at rated flow ADAPT 0724* | kPa | 45 | | / | |
| <i>* Calculated at condition A2/W30-35;</i> | | | | | |
| VOLUME | | | | | |
| BOILER | l | / | | 200 | |
| Heat losses Q_{st} according to EN 12897 | kWh / 24 h | / | | 1,27 | |
| BUFFER TANK | l | 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 | | FTP 5e kabel/2x2x0,6 mm2 (LiYCY) | | FTP 5e kabel/2x2x0,6 mm2 (LiYCY) | |
| Connection to BMS | | MODBUS protokol (UTP kabel – prikljucek RJ45) – RS 485 | | MODBUS protokol (UTP kabel – prikljucek RJ45) – RS 485 | |
| Connection to the internet | | UTP kabel – prikljucek RJ45 - Ethernet | | UTP kabel – prikljucek RJ45 - Ethernet | |

TECHNICAL DATA - INDOOR UNIT

| APPLIANCE* | | WR KSM 2 | WR KSM+ | WR KSM C |
|---------------------------|-----------------|----------|---------|----------|
| ELECTRICAL DATA 1F | | | | |
| 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 | mm ² | 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 ² | 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 ² | 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 (UTO cable connection RJ45) – RS485 | MODBUS protocol (UTO cable connection RJ45) – RS485 | MODBUS protocol (UTO cable connection RJ45) – RS485 |
| Connection to the internet | UTP cable – connection RJ45 – Ethernet | UTP cable – connection RJ45 – Ethernet | UTP cable – connection RJ45 – Ethernet |

TECHNICAL SPECIFICATIONS – FLOW ELECTRICAL 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 | 4 | 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 | 8 | 12 |
| 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 |

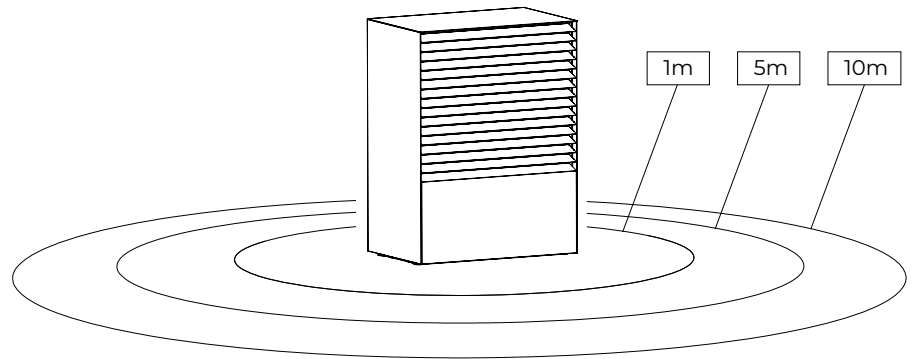
DIMENSIONS AND WEIGHT – NET

| | | | |
|------------------------|----|-----------------|-----------------|
| Dimensions (W x H x D) | mm | 124 x 145 x 330 | 200 x 213 x 440 |
| Weight | kg | 4,1 | 10,1 |

SOUND

Description

- Sound power is a characteristic of a sound source and is not related to distance; describes the total sound energy of an appropriate source that is emitted in all directions.
- Sound pressure depends on the measurement site in the sound field and describes the sound pressure at that location.
- Structural sound is transmitted by structure, so all connectors must be equipped with vibration compensators or absorbers.
- It is very important for the outdoor unit to choose the right location. Adjacent walls and other obstructions around the device significantly affect the sound pressure.

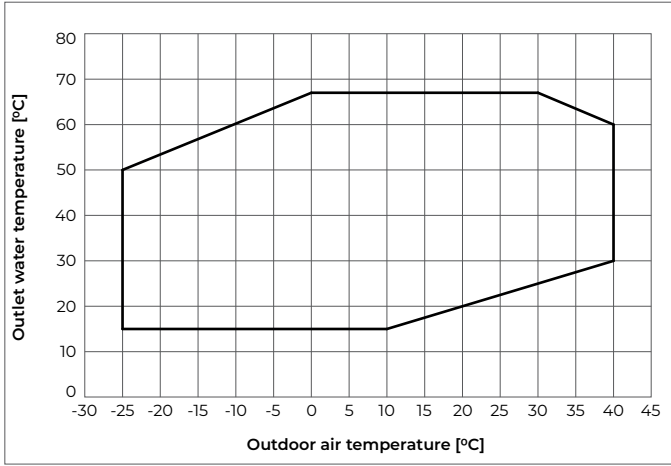


| DEVICE | Unit | ADAPT 0312 | ADAPT 0416 | ADAPT 0724 |
|--|--------|------------|------------|------------|
| SOUND ACCORDING TO EN 12102 AT THE CONDITION OF A7W35 | | | | |
| THE DECLARED SOUND POWER ON THE ECOLABEL ENERGY LABEL | | | | |
| Sound power | dB (A) | 42 | 46 | 53 |
| The sound pressure at the distance of 1 m | dB (A) | 34 | 38 | 45 |
| The sound pressure at the distance of 5 m | dB (A) | 20 | 24 | 31 |
| The sound pressure at the distance of 10 m | dB (A) | 14 | 18 | 25 |
| MINIMUM SOUND POWER | | | | |
| Sound power | dB (A) | 40 | 44 | 51 |
| The sound pressure at the distance of 1 m | dB (A) | 32 | 36 | 43 |
| The sound pressure at the distance of 5 m | dB (A) | 18 | 22 | 29 |
| The sound pressure at the distance of 10 m | dB (A) | 12 | 16 | 23 |
| MAXIMUM SOUND POWER IN OPTIMAL MODE | | | | |
| Sound power | dB (A) | 55 | 61 | 67 |
| The sound pressure at the distance of 1 m | dB (A) | 47 | 53 | 59 |
| The sound pressure at the distance of 5 m | dB (A) | 33 | 39 | 45 |
| The sound pressure at the distance of 10 m | dB (A) | 27 | 33 | 39 |
| MAXIMUM SOUND POWER IN SILENT MODE | | | | |
| Sound power | dB (A) | 44 | 50 | 57 |
| The sound pressure at the distance of 1 m | dB (A) | 36 | 42 | 49 |
| The sound pressure at the distance of 5 m | dB (A) | 22 | 28 | 35 |
| The sound pressure at the distance of 10 m | dB (A) | 16 | 22 | 29 |

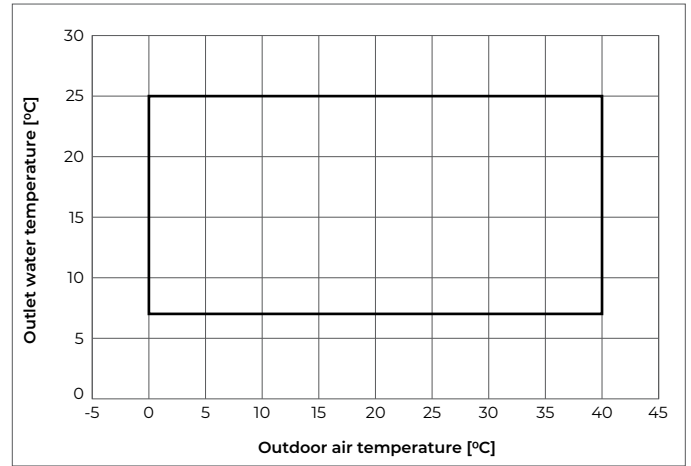
The appliance's sound power depends on the building's actual heating needs. The lower the heating needs, the lower the noise levels, and vice versa. Sound pressure is calculated from the sound power at the hemispherical layout ($Q = 2$).

RANGE OF OPERATION

Heating



Cooling



CAPACITY CURVES

The maximum heat power of the heat pump depends on selected operation mode:

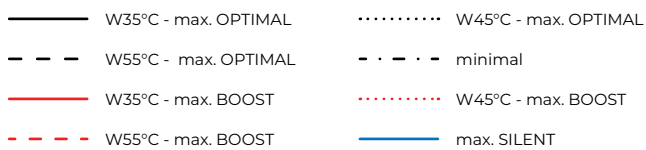
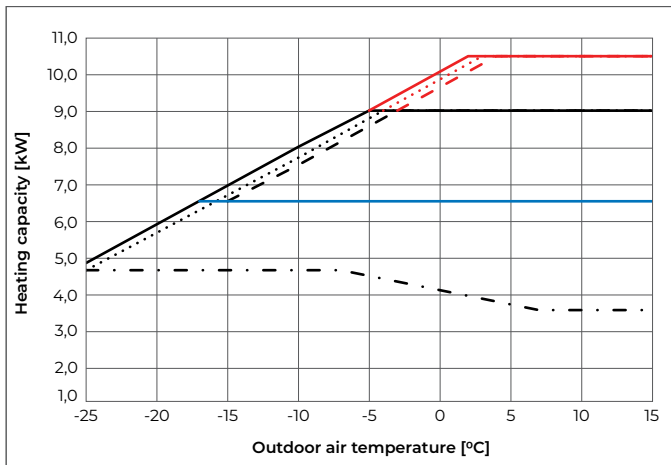
BOOST: in this mode the heat pump has a higher maximum power, high levels of noise, and low efficiency.

OPTIMAL: in this mode the heat pump has the highest level of efficiency and the best ratio between heating capacity and noise levels.

SILENT: in this mode the heat pump has low noise level, a lower maximum heating capacity, and low efficiency.

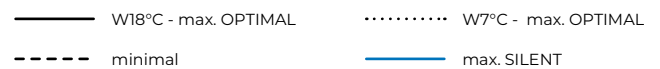
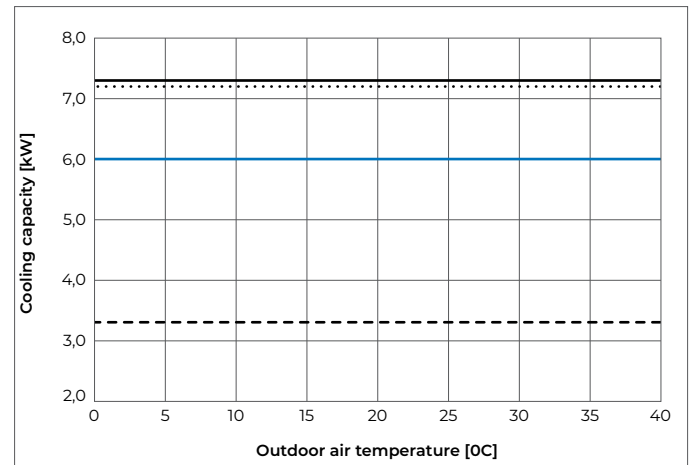
ADAPT 0312

Heating capacity



ADAPT 0312

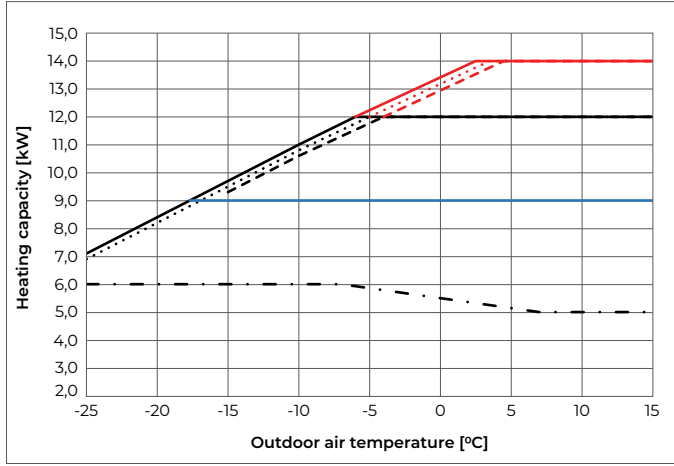
Cooling capacity



CAPACITY CURVES

ADAPT 0416

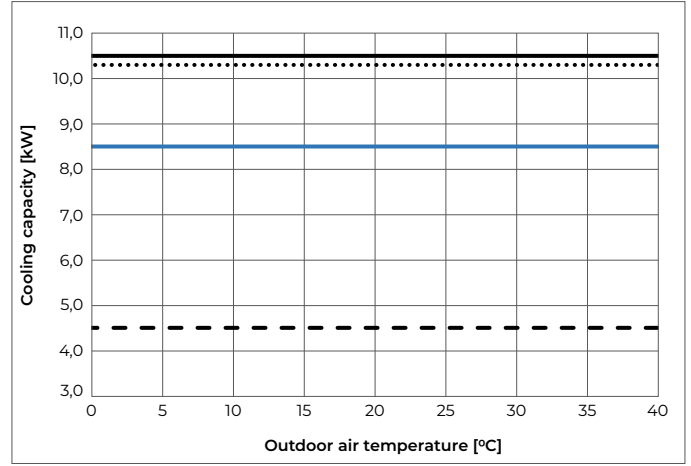
Heating capacity



- W35°C - max. OPTIMAL ····· W45°C - max. OPTIMAL
- - - W55°C - max. OPTIMAL - · - · minimal
- W35°C - max. BOOST ····· W45°C - max. BOOST
- - - W55°C - max. BOOST — max. SILENT

ADAPT 0416

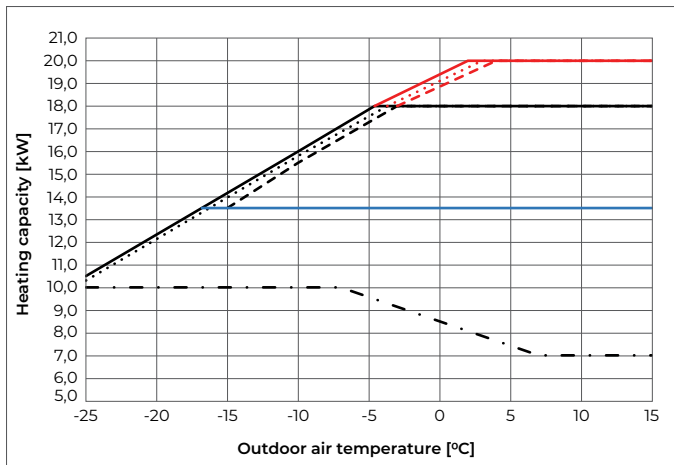
Cooling capacity



- W18°C - max. OPTIMAL ····· W7°C - max. OPTIMAL
- - - minimal — max. SILENT

ADAPT 0724

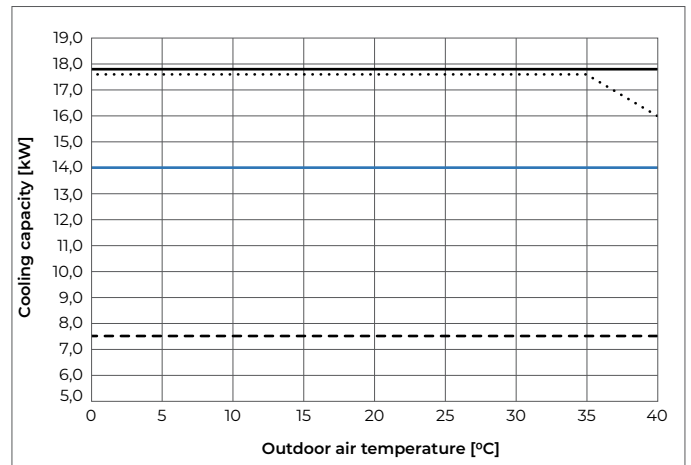
Heating capacity



- W35°C - max. OPTIMAL ····· W45°C - max. OPTIMAL
- - - W55°C - max. OPTIMAL - · - · minimal
- W35°C - max. BOOST ····· W45°C - max. BOOST
- - - W55°C - max. BOOST — max. SILENT

ADAPT 0724

Cooling capacity

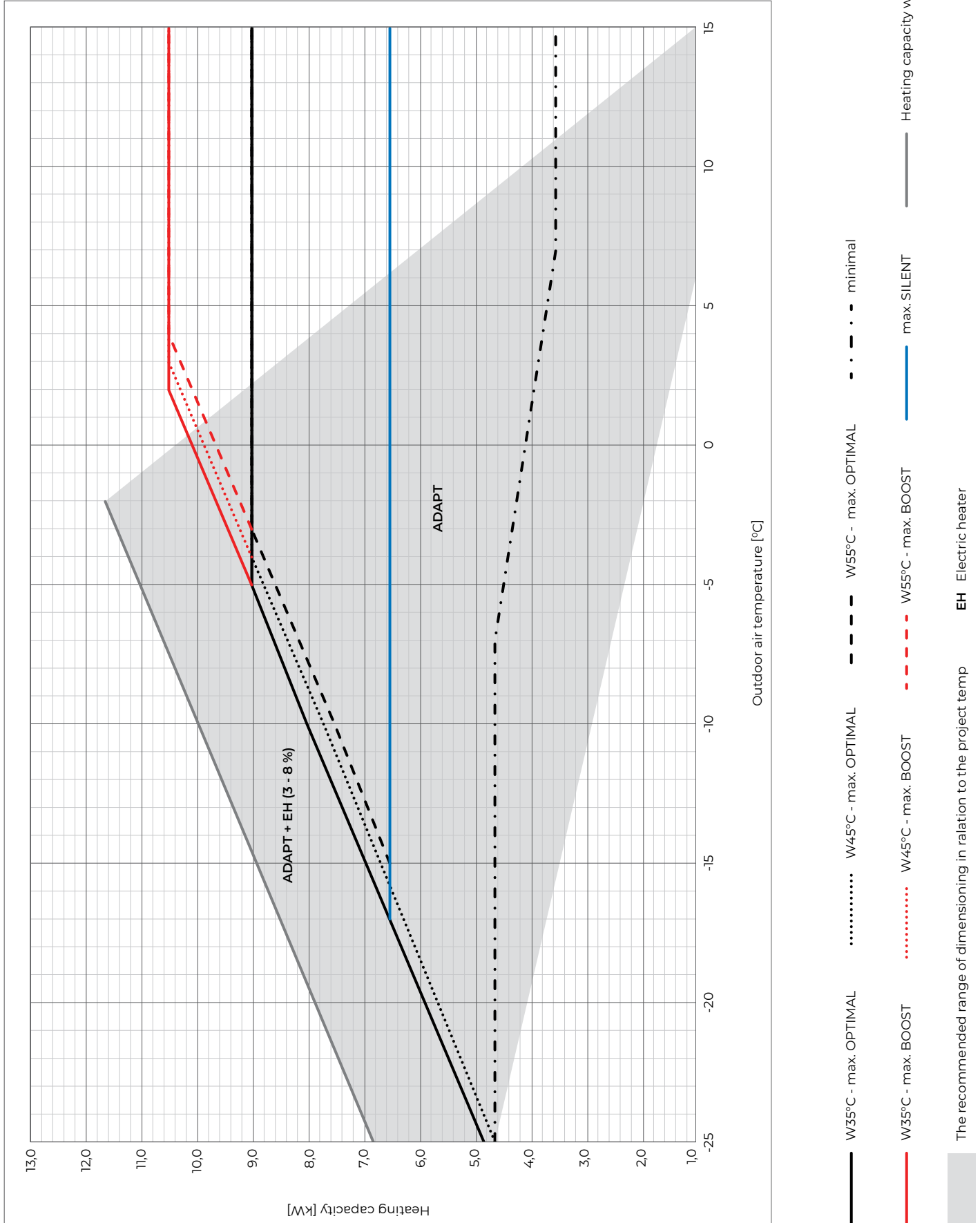


- W18°C - max. OPTIMAL ····· W7°C - max. OPTIMAL
- - - minimal — max. SILENT

CAPACITY CURVES

ADAPT 0312

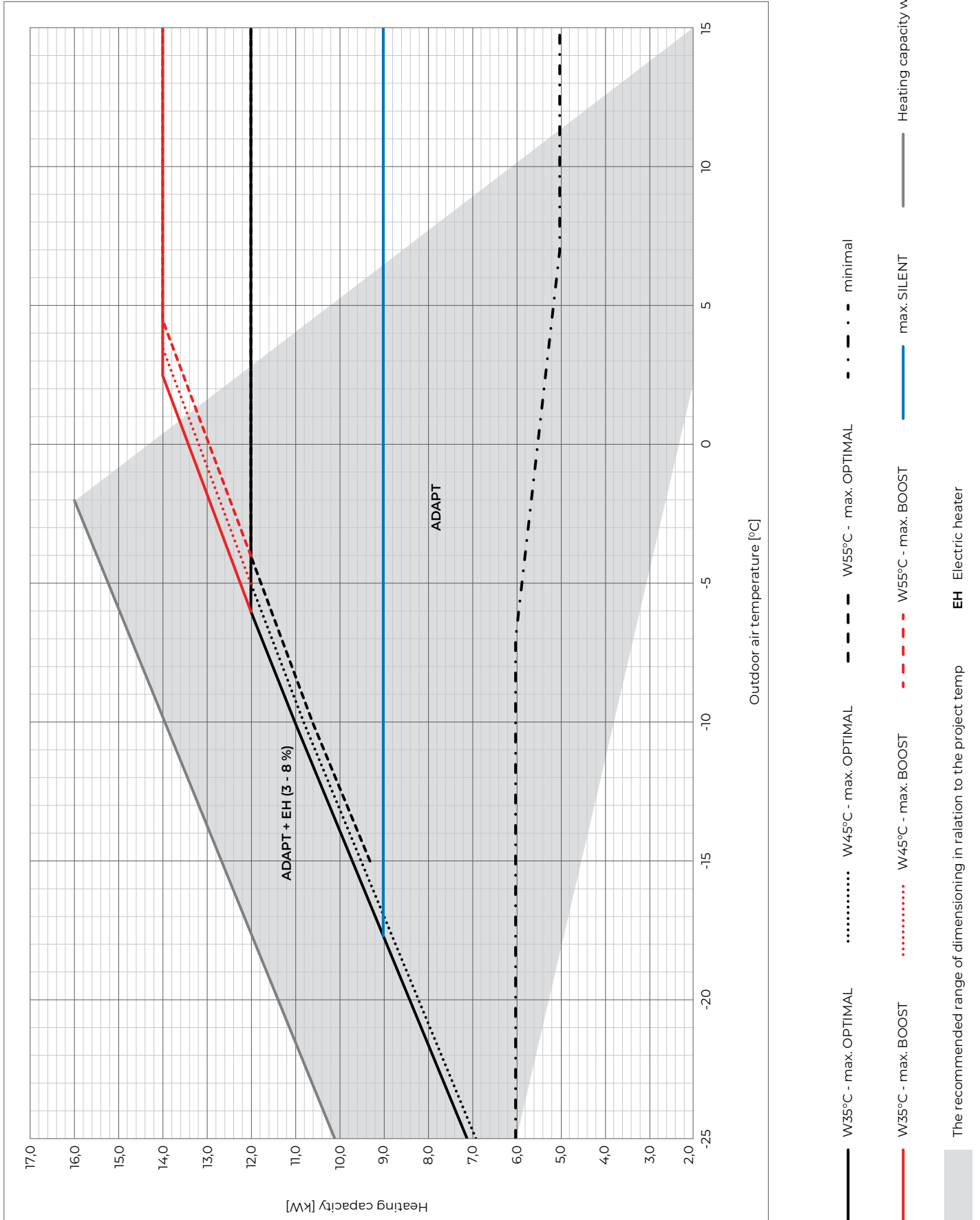
Heating capacity



CAPACITY CURVES

ADAPT 0416

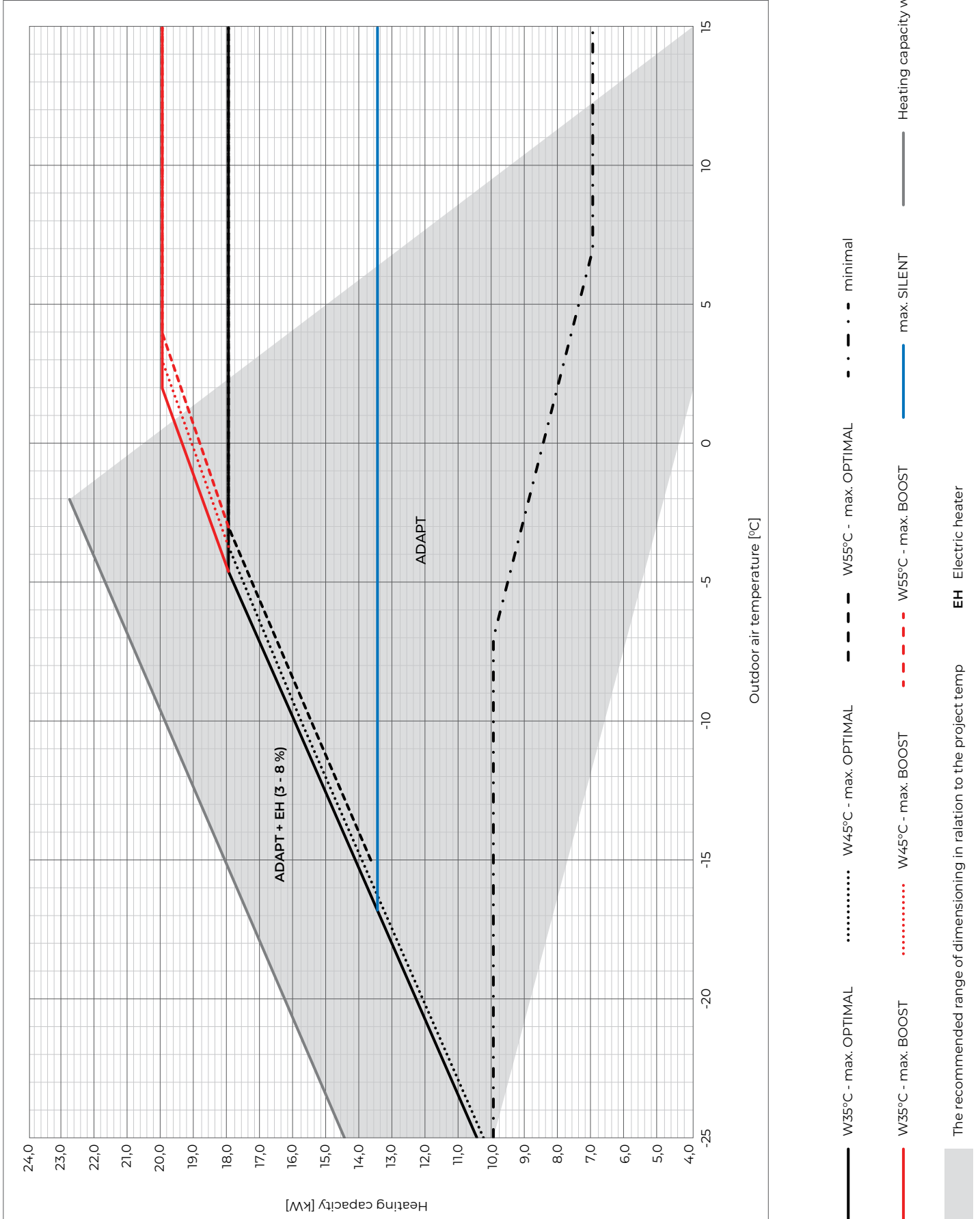
Heating capacity



CAPACITY CURVES

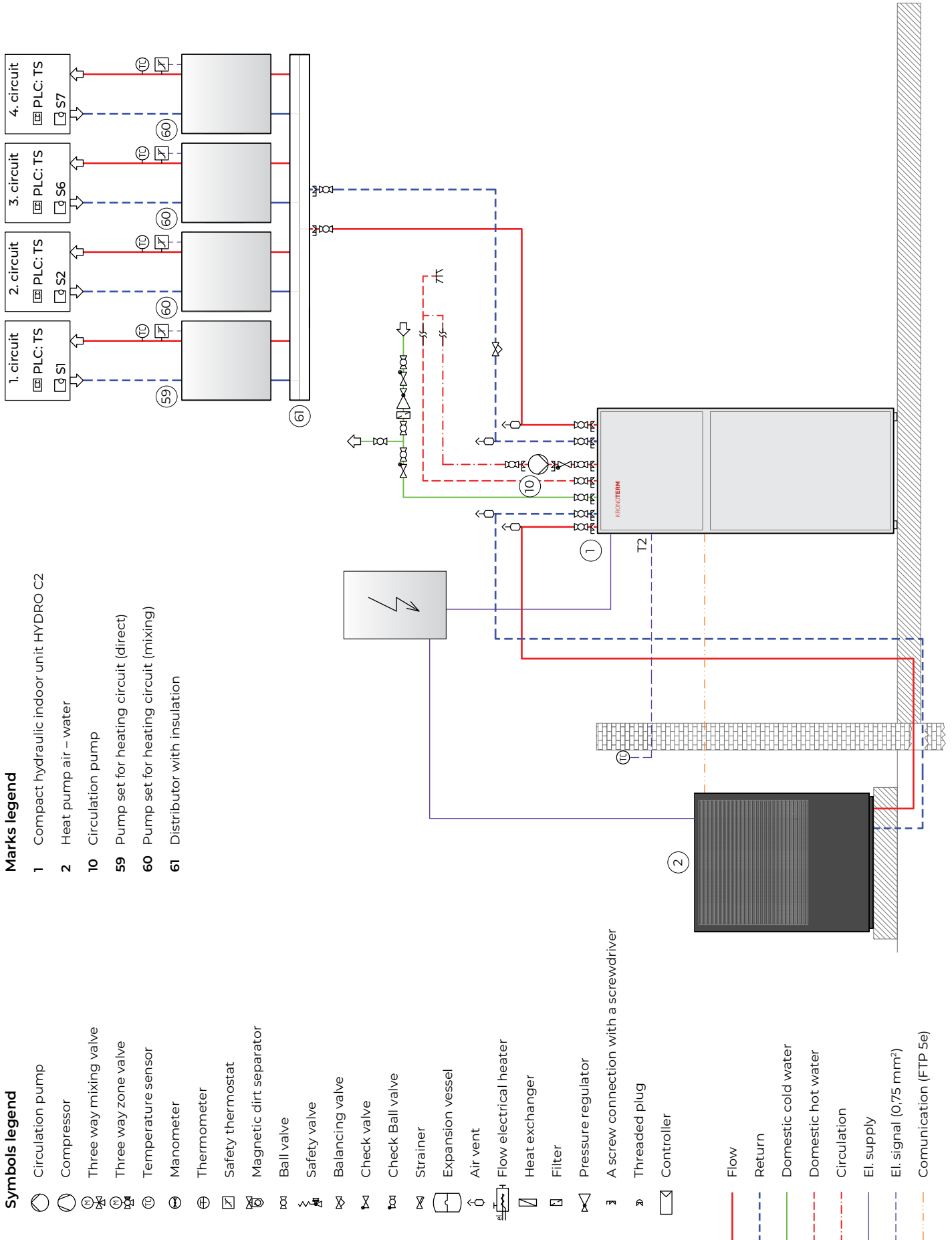
ADAPT 0724

Heating capacity



BASIC PIPING AND INSTRUMENTATION DIAGRAM

HYDRO C2



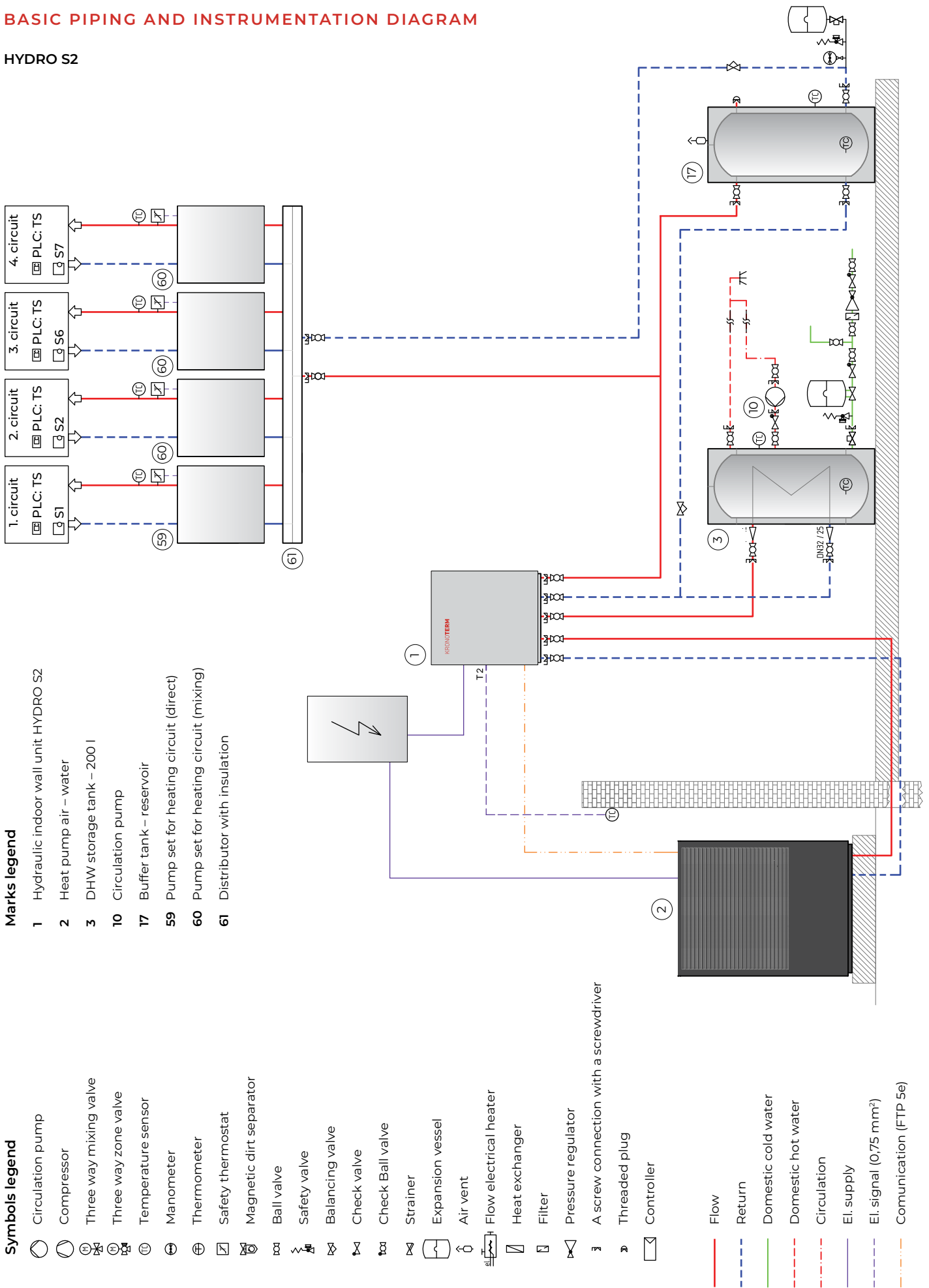
Symbols legend

- Circulation pump
- Compressor
- Three way mixing valve
- Three way zone valve
- Temperature sensor
- Manometer
- Thermometer
- Safety thermostat
- Magnetic dirt separator
- Ball valve
- Safety valve
- Balancing valve
- Check valve
- Check Ball valve
- Strainer
- Expansion vessel
- Air vent
- Flow electrical heater
- Heat exchanger
- Filter
- Pressure regulator
- A screw connection with a screwdriver
- Threaded plug
- Controller

- Flow
- Return
- Domestic cold water
- Domestic hot water
- Circulation
- El. supply
- El. signal (0,75 mm²)
- Comunication (FTP 5e)

BASIC PIPING AND INSTRUMENTATION DIAGRAM

HYDRO S2



Marks legend

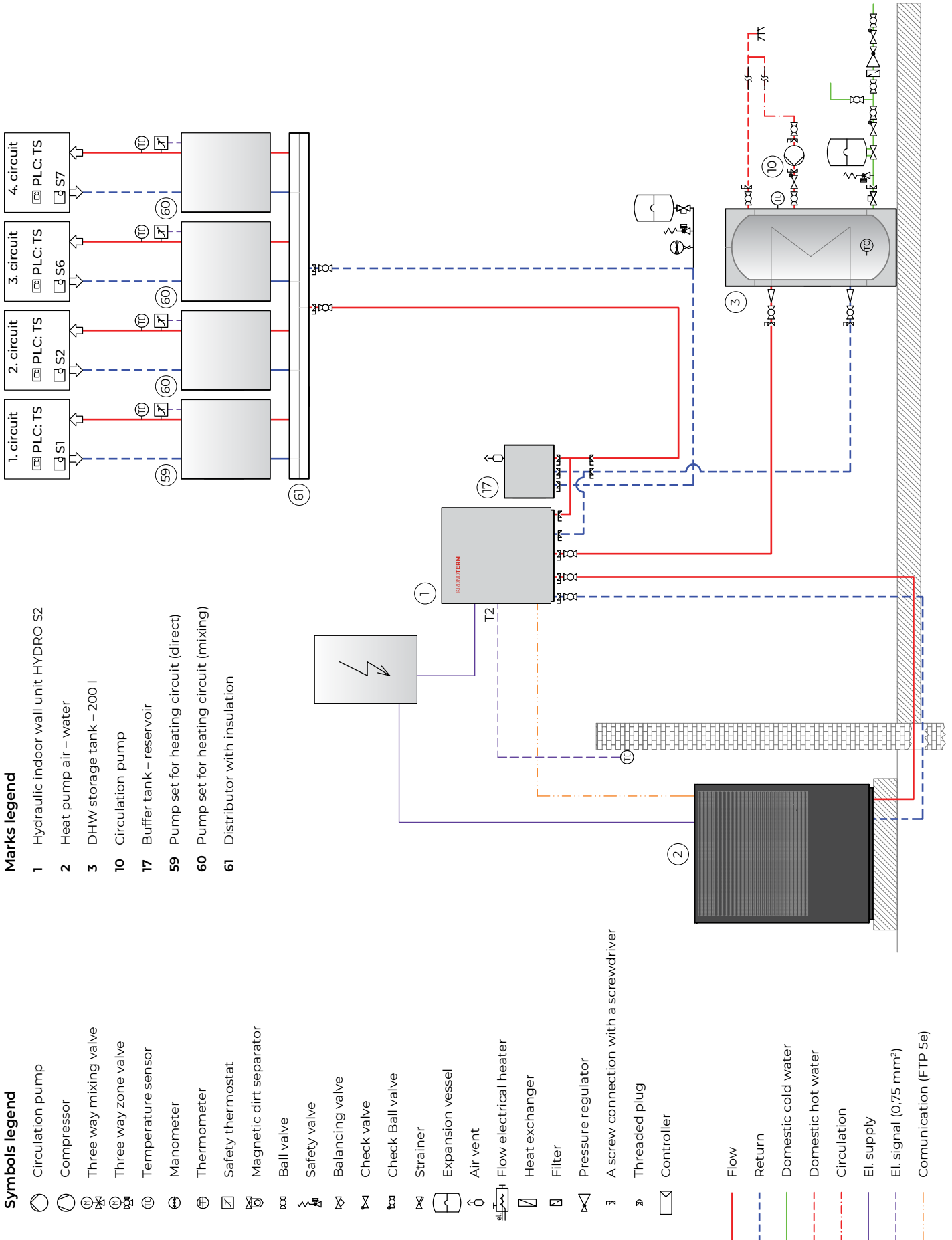
- 1 Hydraulic indoor wall unit HYDRO S2
- 2 Heat pump air – water
- 3 DHW storage tank – 200 l
- 10 Circulation pump
- 17 Buffer tank – reservoir
- 59 Pump set for heating circuit (direct)
- 60 Pump set for heating circuit (mixing)
- 61 Distributor with insulation

Symbols legend

- Circulation pump
- Compressor
- Three way mixing valve
- Three way zone valve
- Temperature sensor
- Manometer
- Thermometer
- Safety thermostat
- Magnetic dirt separator
- Ball valve
- Safety valve
- Balancing valve
- Check valve
- Check Ball valve
- Strainer
- Expansion vessel
- Air vent
- Flow electrical heater
- Heat exchanger
- Filter
- Pressure regulator
- A screw connection with a screwdriver
- Threaded plug
- Controller
- Flow
- Return
- Domestic cold water
- Domestic hot water
- Circulation
- EI supply
- EI signal (0,75 mm²)
- Communication (FTP 5e)

BASIC PIPING AND INSTRUMENTATION DIAGRAM

HYDRO S2 + HYDRO P2



Marks legend

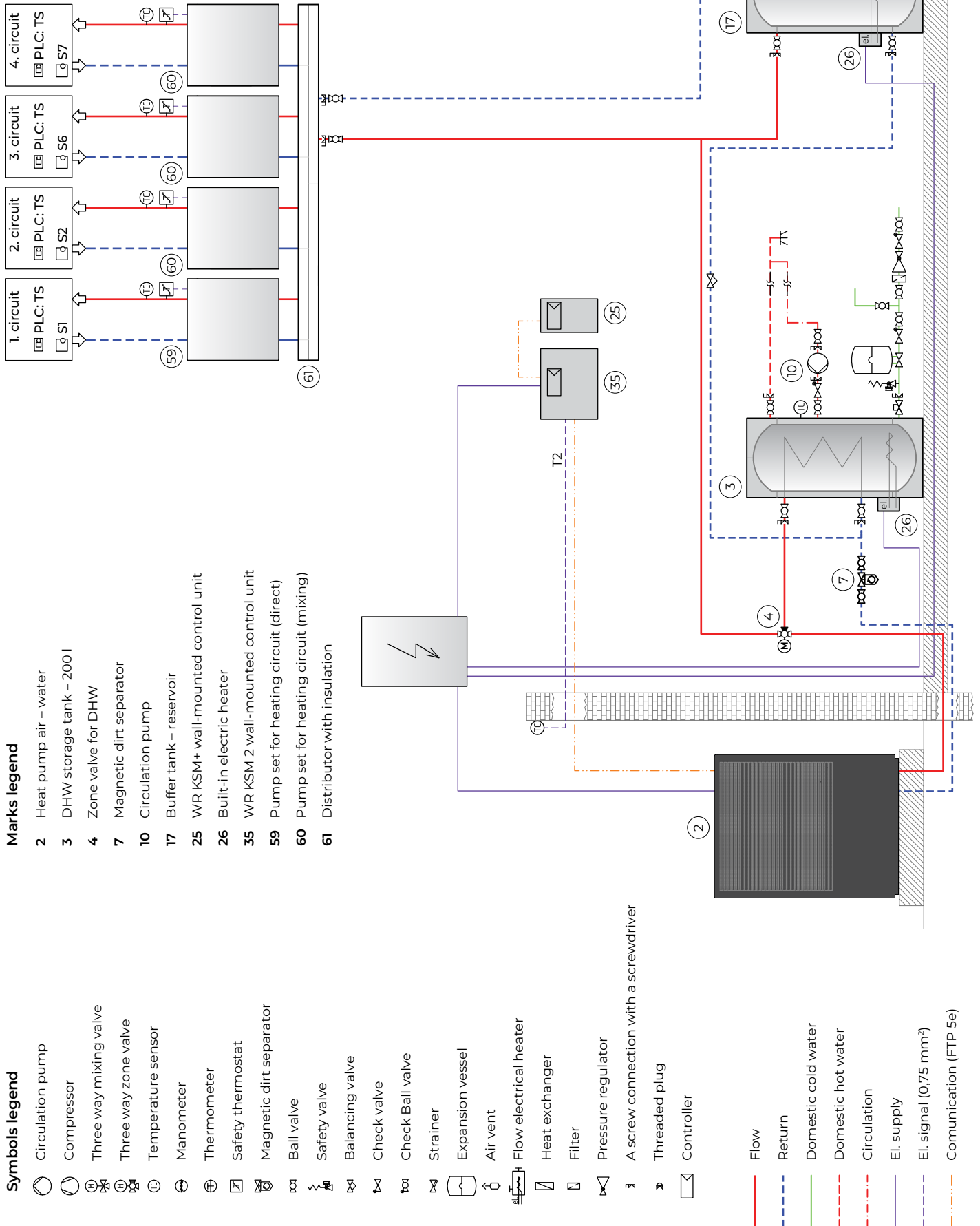
- 1 Hydraulic indoor wall unit HYDRO S2
- 2 Heat pump air – water
- 3 DHW storage tank – 200 l
- 10 Circulation pump
- 17 Buffer tank – reservoir
- 59 Pump set for heating circuit (direct)
- 60 Pump set for heating circuit (mixing)
- 61 Distributor with insulation

Symbols legend

- Circulation pump
- Compressor
- Three way mixing valve
- Three way zone valve
- Temperature sensor
- Manometer
- Thermometer
- Safety thermostat
- Magnetic dirt separator
- Ball valve
- Safety valve
- Balancing valve
- Check valve
- Check Ball valve
- Strainer
- Expansion vessel
- Air vent
- Flow electrical heater
- Heat exchanger
- Filter
- Pressure regulator
- A screw connection with a screwdriver
- Threaded plug
- Controller
- Flow
- Return
- Domestic cold water
- Domestic hot water
- Circulation
- EI. supply
- EI. signal (0,75 mm²)
- Communication (FTP 5e)

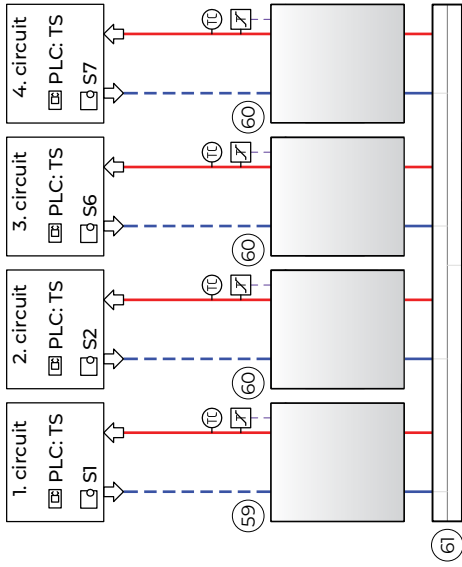
BASIC PIPING AND INSTRUMENTATION DIAGRAM

WR KSM 2 with built-in electric heater



BASIC PIPING AND INSTRUMENTATION DIAGRAM

WR KSM 2 with electric flowthrough heater

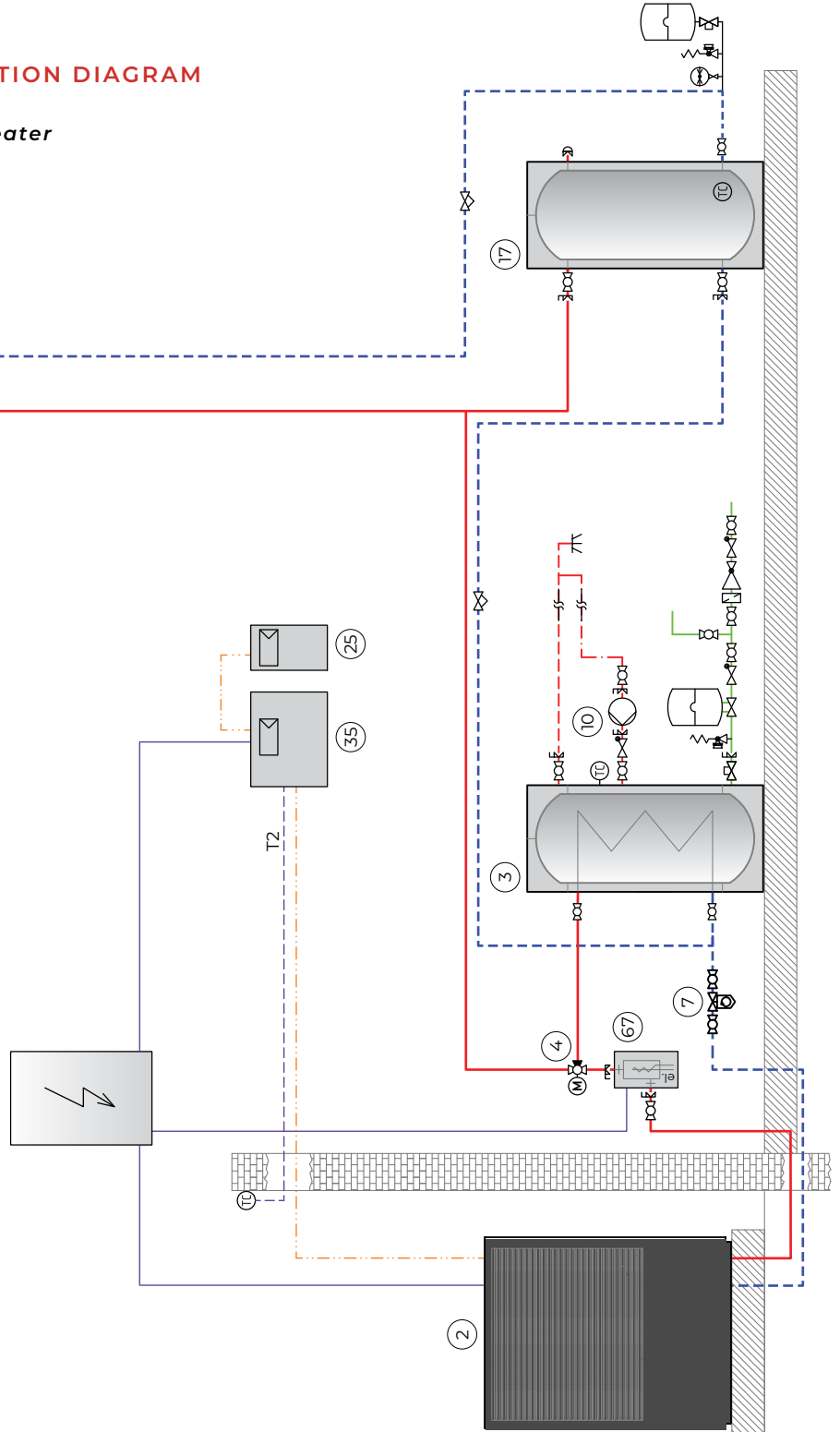


Marks legend

- 2 Heat pump air – water
- 3 DHW storage tank – 200 l
- 4 Zone valve for DHW
- 7 Magnetic dirt separator
- 10 Circulation pump
- 17 Buffer tank – reservoir
- 25 WR KSM+ wall-mounted control unit
- 35 WR KSM 2 wall-mounted control unit
- 59 Pump set for heating circuit (direct)
- 60 Pump set for heating circuit (mixing)
- 61 Distributor with insulation
- 67 Electric flowthrough heater

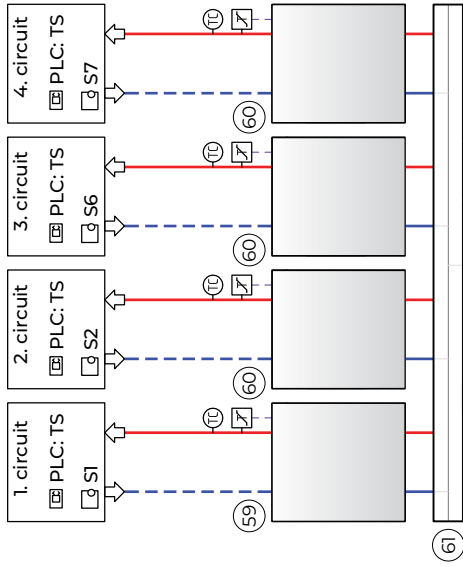
Symbols legend

- Circulation pump
- Compressor
- Three way mixing valve
- Three way zone valve
- Temperature sensor
- Manometer
- Thermometer
- Safety thermostat
- Magnetic dirt separator
- Ball valve
- Safety valve
- Balancing valve
- Check valve
- Check Ball valve
- Strainer
- Expansion vessel
- Air vent
- Flow electrical heater
- Heat exchanger
- Filter
- Pressure regulator
- A screw connection with a screwdriver
- Threaded plug
- Controller
- Flow
- Return
- Domestic cold water
- Domestic hot water
- Circulation
- El. supply
- El. signal (0,75 mm²)
- Communication (FTP 5e)



BASIC PIPING AND INSTRUMENTATION DIAGRAM

WR KSM C

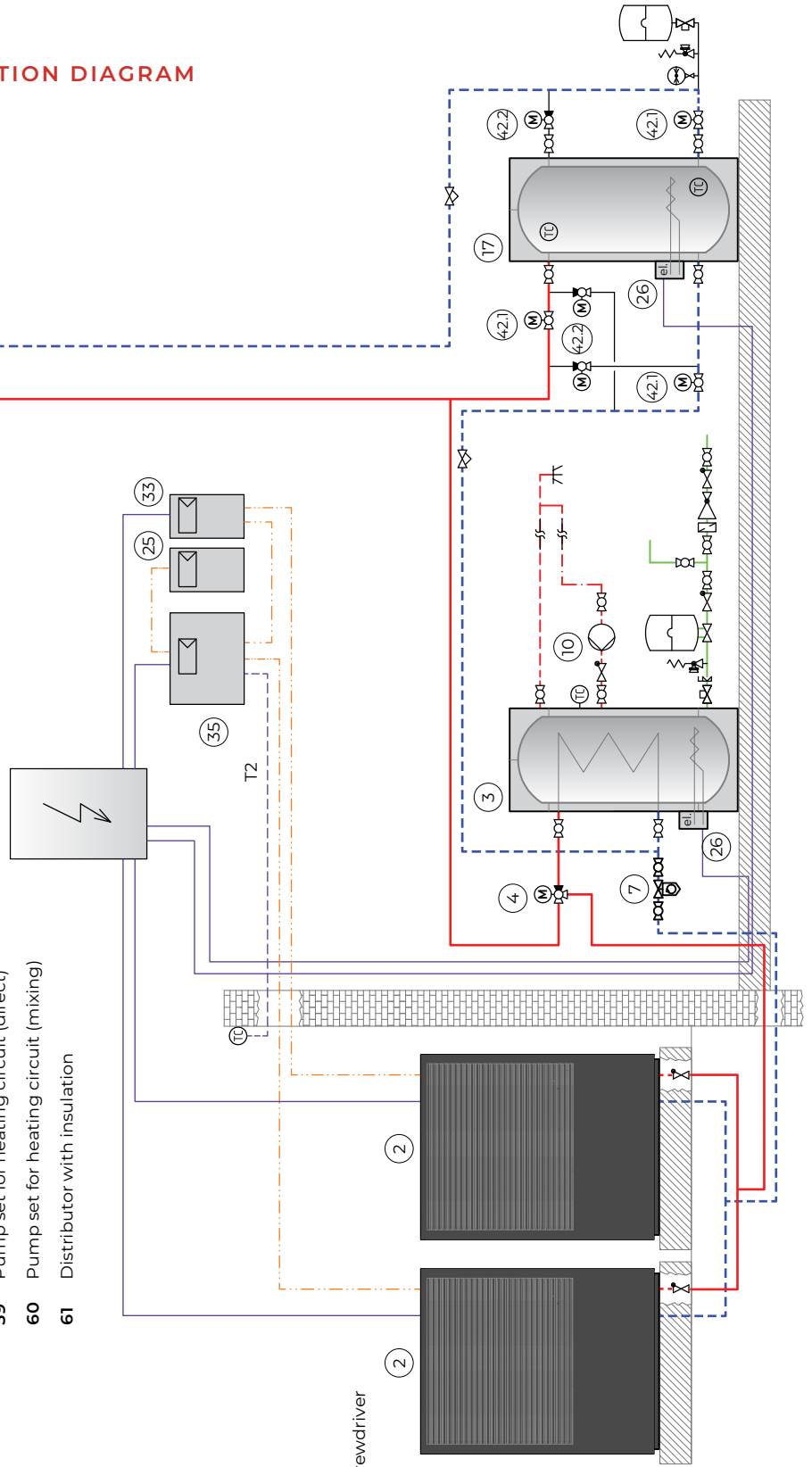


Marks legend

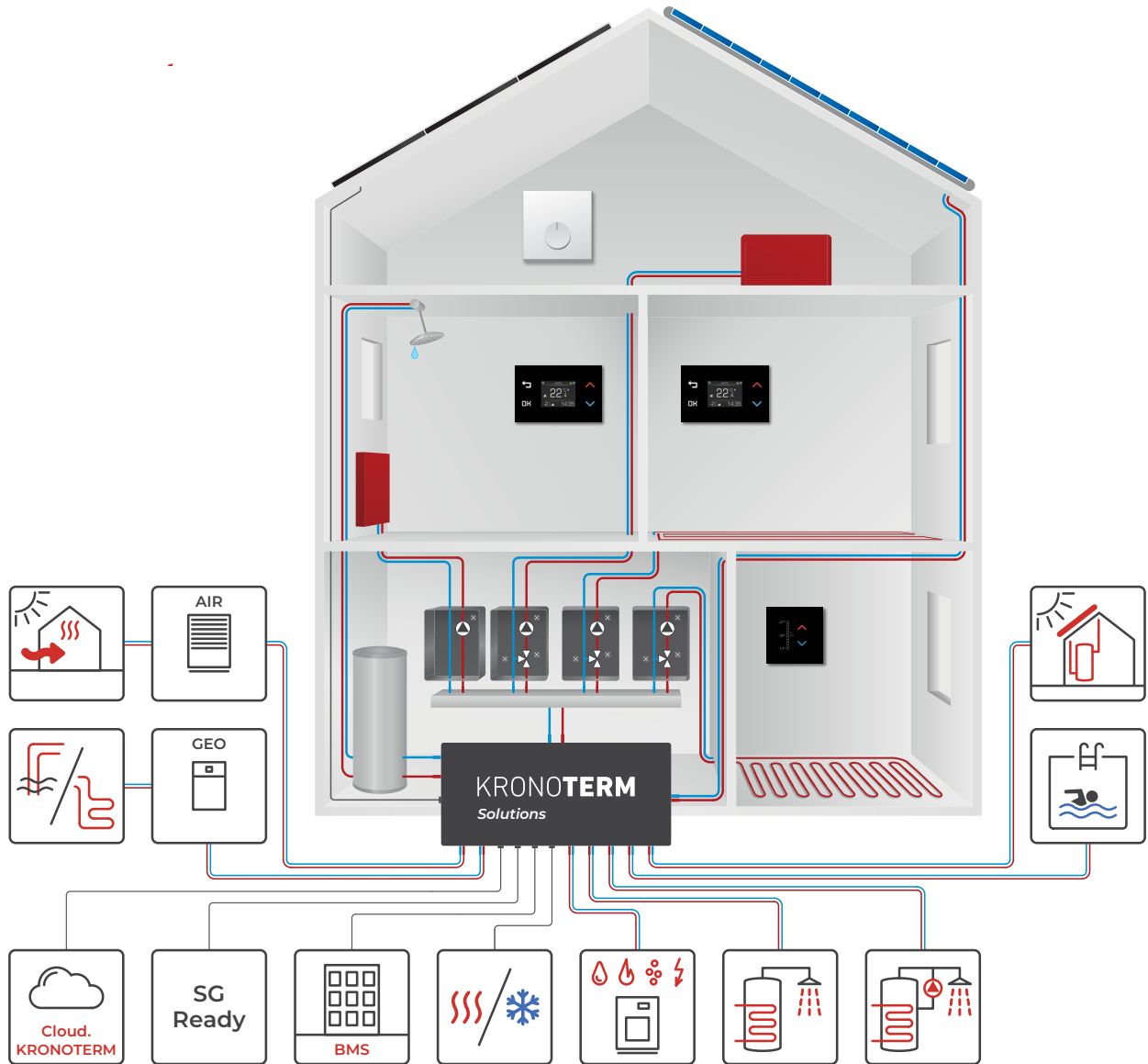
- 2 Heat pump air – water
- 3 DHW storage tank – 200 l
- 4 Zone valve for DHW
- 7 Magnetic dirt separator
- 10 Circulation pump
- 17 Buffer tank – reservoir
- 25 WR KSM+ wall-mounted control unit
- 26 Built-in electric heater
- 33 WR KSM C wall-mounted control unit
- 35 WR KSM 2 wall-mounted control unit
- 42.1 zone valve for cooling mode (normally open)
- 42.2 zone valve for cooling mode (normally closed)
- 59 Pump set for heating circuit (direct)
- 60 Pump set for heating circuit (mixing)
- 61 Distributor with insulation

Symbols legend

- Circulation pump
- Compressor
- Three way mixing valve
- Three way zone valve
- Temperature sensor
- Manometer
- Thermometer
- Safety thermostat
- Magnetic dirt separator
- Ball valve
- Safety valve
- Balancing valve
- Check valve
- Check Ball valve
- Strainer
- Expansion vessel
- Air vent
- Flow electrical heater
- Heat exchanger
- Filter
- Pressure regulator
- A screw connection with a screwdriver
- Threaded plug
- Controller
- Flow
- Return
- Domestic cold water
- Domestic hot water
- Circulation
- El. supply
- El. signal (0,75 mm²)
- Communication (FTP 5e)



KRONOTERM SYSTEM



KRONOTERM d.o.o.

Trnava 5e, 3303 Gomilsko, SLO

T +386 3 703 16 20

www.kronoterm.com

info@kronoterm.com