PowerKon LT
Heat pump-based heaters | Fan coils

PowerKon LT

Heat pump-based heaters for the efficient low-temperature heating and cooling of existing and new buildings

Technical Catalogue

KAMPMANN

Contents

PowerKon LT: Heat pump-based heaters present an alternative to underfloor heating

The low system temperatures of the PowerKon LT enable the efficient operation of a heat pump.

Using wet cooling in summer can help to air-condition rooms.

01 Product information

PowerKon LT – heat pump-based heaters for the efficient low-temperature heating and cooling of existing and new buildings

A heat pump is essential for the contemporary heating of existing as well as new buildings. Low system temperatures are crucial for the efficiency of the heat pump. Under these conditions, PowerKon LT units provide for heating and cooling with maximum comfort.

The use of a heat pump as a heating system is associated with different challenges as well as possibilities, both in residential and commercial buildings.

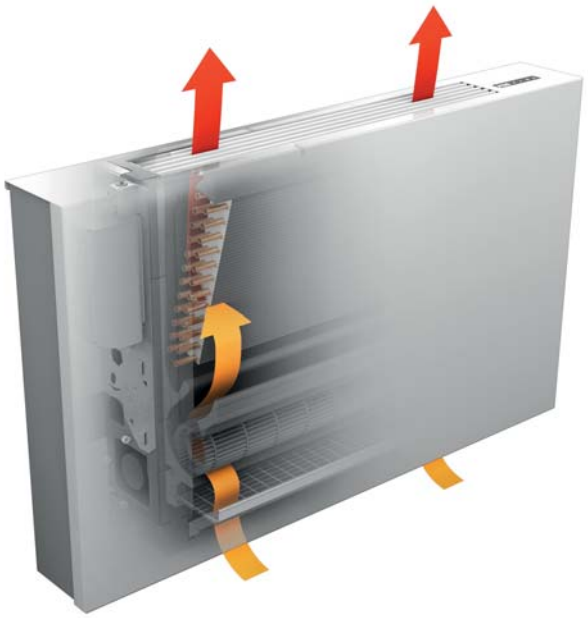
Existing buildings
Heating systems in existing buildings are often installed with fossil energy sources, like gas or oil. They generally produce water temperatures of over 60 °C in the heating circuit. However, if these heating systems are replaced by heat pumps, then the system temperature must be lowered to operate the heat pumps efficiently. The existing heaters thus lose up to 80 % of their output and are no longer able to adequately heat the rooms. Converting a building to underfloor heating is time-consuming and would result in the removal of the existing floor coverings.

Existing heaters can be replaced with PowerKon LT units with little installation work involved and thus produce sufficient heat output at low system temperatures.

New buildings
Underfloor heating combined with a heat pump is a good choice in new buildings, particularly in detached houses. However, underfloor heating cannot meet the demand in rooms where a fast response is required, e.g. playrooms or rooms that are infrequently heated (attics etc.) The inertia of the system due to the large storage mass does not permit rapid temperature changes. PowerKon LT units can heat up a room within a few minutes.

Cooling function
Regardless of whether in existing or new buildings, residential or commercial buildings: Air-conditioning is becoming increasingly important due to hot summers, extensive glazing, better insulation and increased demands for comfort. Many heat pumps offer the option of cooling. Either in the form of passive cooling using probes, or active cooling by reversal of the cooling circuit. Unlike underfloor heating or heaters, PowerKon LT units can deliver wet cooling and thus dissipate high heat loads.

Understated appearance
The PowerKon LT has been designed with an understated appearance in mind. Its design enables heaters to be replaced unobtrusively. In terms of acoustics, great importance was placed on its extremely quiet mode of operation, which also enables it to be used in bedrooms without any problems.



Product data

Product benefits

- Ideal addition to heat pumps
- Maximum outputs in the room combined with maximum heat pump efficiency
- Flexible connection options: left or right connection with pipes coming from the wall or floor
- Unobtrusive radiator-styled design conceals the connection area
- Optional display control with automatic mode or conventional as well as smart thermostatic heads
- Quiet tangential fan for noise-sensitive applications
- Thermally and acoustically insulated EPP housing (expanded polypropylene)
- Lightweight so easy to install
- Includes drilling template for fast and precise positioning

Features

- Three sizes and three control versions
- Basic unit and casing hood form a single unit
- Continuously variable EC fans
- High-output and efficient heating and cooling
- Thermostatic valves or differential pressure-independent thermostatic valves available as accessories
- Simple cleaning and maintenance in accordance with VDI 6022 is possible

Installation	> Wall-mounted
Heating	> LPHW
Cooling	> CHW

Performance data

Heat output[1)]	312 – 2874 W
Cooling output[2)]	221 – 2508 W
Sound pressure level[3)]	10 – 41 dB(A)
Sound power level	18 – 49 dB(A)

1) at LPHW 45/40 °C, t_{L1} = 20 °C
2) at CHW 7/12 °C, t_{L1} = 27 °C, 48 % relative humidity
3) The sound pressure levels were calculated with an assumed room insulation of 8 dB(A).

Operating limits
Max. operating pressure: 16 bar
Max. entering water temperature: 75 °C
Min. entering water temperature: 6 °C
Max. air inlet temperature: 30 °C
Max. glycol volume: 50 %

Applications

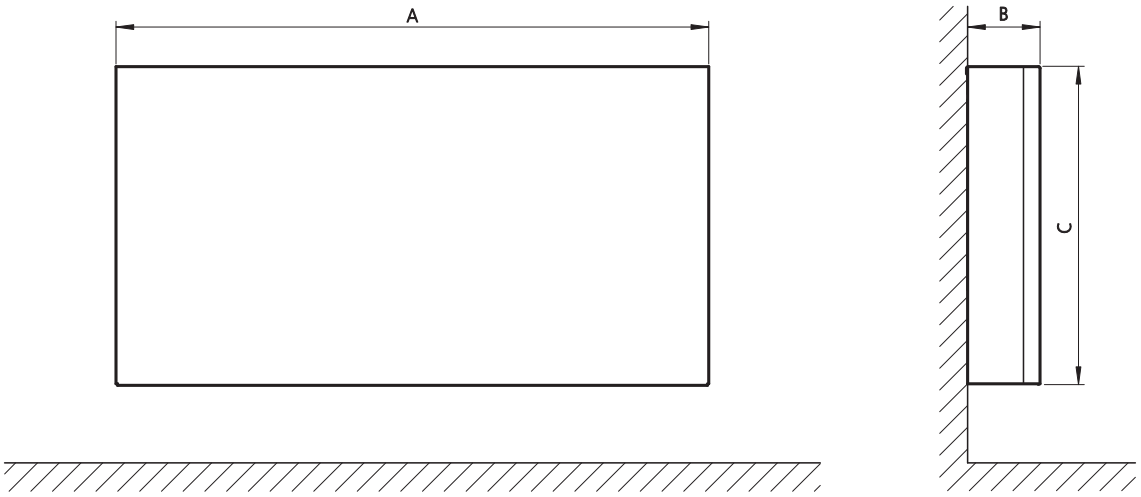
Buildings of all kinds, which require whisper-quiet cooling and/or heating from a visually discreet design.

Selection guide

Model size	Dimensions (A x B x C)	Control option	Heat output[1)]	Cooling output[2)]	Sound power level
	[mm]		[W]	[W]	[dB(A)]
1	780 x 141 x 618	Electromechanical 230 V	312 – 1439	221 – 1228	18 – 49
		Thermostat	784 – 1429	–	28 – 48
		Display	784 – 1429	629 – 1219	
2	1030 x 141 x 618	Electromechanical 230 V	520 – 2215	381 – 1974	20 – 48
		Thermostat	1171 – 2215	–	28 – 48
		Display	1171 – 2215	998 – 1974	
3	1220 x 141 x 618	Electromechanical 230 V	675 – 2874	523 – 2508	21 – 49
		Thermostat	1450 – 2850	–	28 – 48
		Display	1450 – 2850	1209 – 2485	

[1)] at LPHW 45/40 °C, t_{L1} = 20 °C
[2)] at CHW 7/12 °C, t_{L1} = 27 °C, 48 % relative humidity

Technical drawing



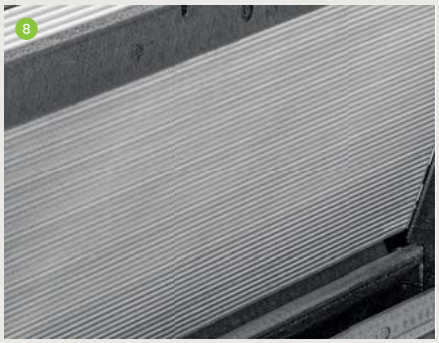
PowerKon LT at a glance

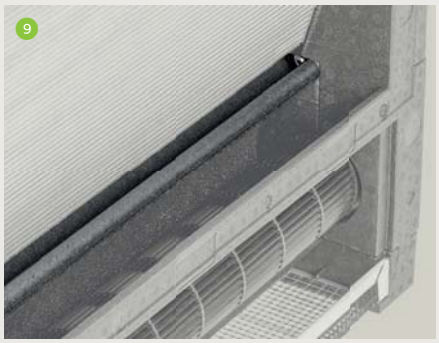
1 Casing and air outlet grille
- Understated radiator-like design made of powder-coated 1.25 mm sheet steel
- Front panel and air outlet grille both in Traffic white (RAL 9016), side parts in White aluminium (RAL 9006)
- Colour can be selected according to customer requirements
- Casing fully conceals the valve and electrical connection area, providing plenty of space to connect the unit

2 Basic unit
- Basic unit based on an innovative EPP basic structure
- EPP is characterised by its excellent rigidity and light weight, outstanding insulation properties, and ability to be recycled
- The potentially complex design provides optimum aerodynamic conditions for the heat exchanger and fan, resulting in excellent performance values and low noise levels
- Three unit lengths available

4 EC motor and tangential fan
- Durable, continuously variable and energy-saving EC tangential fan
- The tangential impeller is specially integrated into the EPP housing and optimised with CFD simulation. This ensures maximum energy efficiency at low sound levels and high air volume flows
- Quiet tangential fan for noise-sensitive applications
- Continuously variable fan speed control for on-demand heat supply

5 Air filter
- ISO Coarse class of air filter filters dust out of the room air
- The unit can be vacuumed and cleaned in situ
- Protection against accidental intrusion and ingress of dirt





6 Operating options and junction box 3

- Choice of three control methods:
  - Intuitive touch display with setpoint temperature setting and automatic mode (*N2)
  - Operation with conventional or smart thermostatic head (supplied on site, only heating possible) (*N1)
  - Control with central measurement, control and regulation technology or room control unit (00)
- All components are centrally wired in the junction box
- Versions *N1 and *N2 are factory-fitted with a 1 m long connecting line and safety plug to plug into a conventional socket

7 Valves and connections

- Optional valve kits consisting of thermostatic valve, return valve and corrugated pipes for flexible and easy connection
- Optionally supplied loose or factory-fitted
- Automatic hydraulic balancing by differential pressure-independent valves

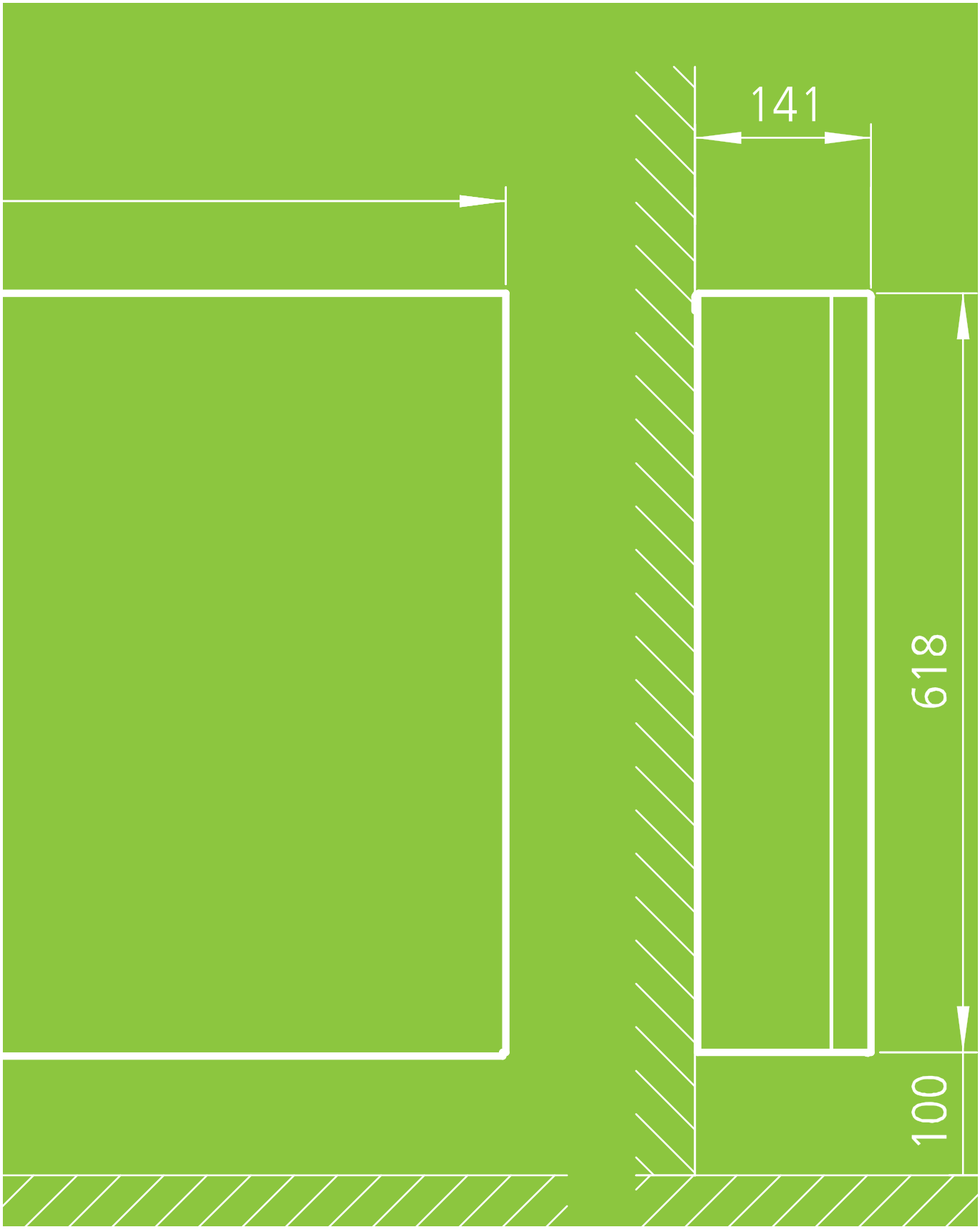
8 High-efficiency heat exchanger

- Large high-efficiency copper-aluminium heat exchanger optimised for low-temperature heating and cooling mode
- Pressure loss-optimised on the water- and air-side for maximum fan and circulation pump efficiency in the heating system

9 Condensate tray

- The unit always offers a condensate tray to enable wet cooling.
- Depending on the structural conditions on site, a free drain (accessory) can be provided from the tray, or alternatively the condensate can be discharged by means of a condensate pump (accessory).
- The condensate pump is extremely quiet (less than 20 dB(A). A capacitive sensor is used to detect the tank level and adjust the pump speed.

02 Technical data



Advice on measuring conditions

The heat outputs were determined in accordance with DIN EN 16430 "Fan-assisted radiators, convectors and trench convectors" and the cooling outputs in accordance with DIN EN 1397:2022 "Heat exchangers - Hydronic room fan coil units - Test procedures for establishing the performance".

Heat outputs
DIN EN 16430 regulates the performance measurements specifically of fan-assisted radiators and trench convectors under normal operating conditions based on DIN EN 442 "Radiators and convectors".

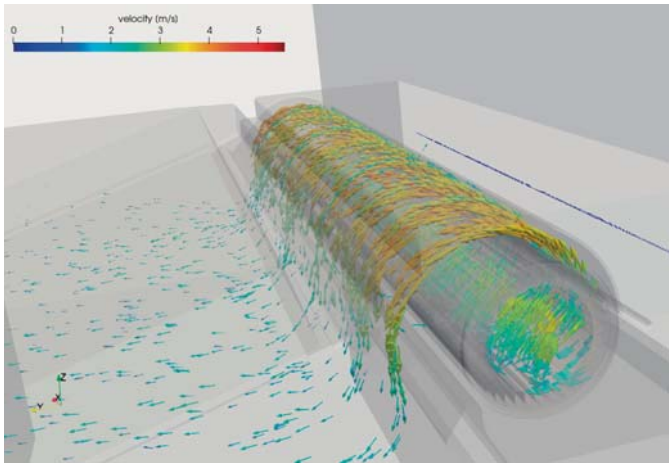
- Part 1 "Technical specification and requirements"
- Part 2 "Test method and performance data"

Cooling outputs
The specific requirements for cooling mode are taken into account in DIN EN 1397. They are also based on Eurovent certification.

Normative reference:
- EN 16583; Determining the sound power levels of noise sources
- EN 45001; General criteria for the operation of test laboratories
- ISO 5801; Industrial fans; Performance testing using standardised airways
- ISO 5221; Air distribution and air diffusion; Rules to methods of measuring air flow rate in an air handling duct

The air intake temperature of the fan coil is selected as the reference/air temperature, which should not be confused with the room temperature. In practice, the units are positioned as sill units along the façade. Due to the temperature stratification that occurs, the air intake temperature differs from the room air temperature (measured at a height of 1.5 m).

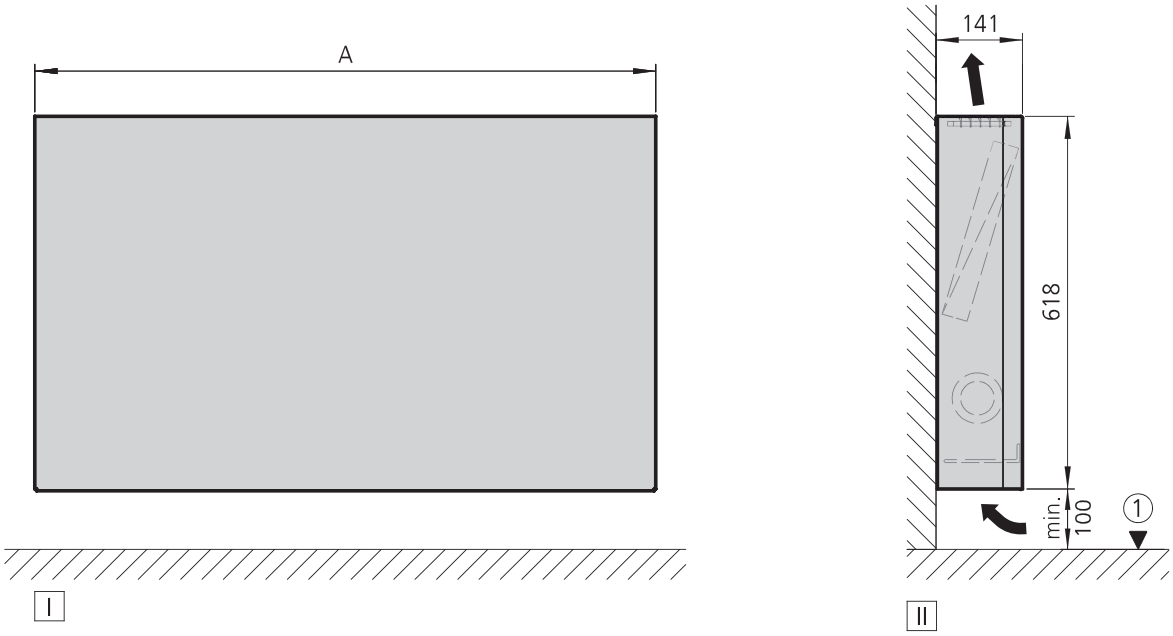
Acoustics
Fan coils are very often used in acoustically sensitive areas. The units have therefore been optimised in terms of sound emissions. The acoustic data was recorded in accordance with the provisions of DIN EN 16583 by DIN EN ISO 3744 and DIN EN ISO 3741 in the Kampmann GmbH laboratories. A room attenuation of 8 db(A) is assumed when specifying the sound pressure level.



PowerKon LT

Control option electromechanical 230 V
Unit design Heating or cooling

Technical drawing (Dimensions in mm)



View
I Front view
II Side view
III Top view

Further information
① Upper edge of finished floor

Specifications

Type	Model size	Length (A)	Weight	Water content	Connection
		[mm]	[kg]	[l]	
129001*1020*00	1	780	18	0,8	1/2", One-sided
129001*2020*00	2	1030	20	1,2	1/2", One-sided
129001*3020*00	3	1220	22	1,5	1/2", One-sided

Performance data

Model size	Control voltage	Air flow	Heat output[1]	Outlet air temperature	Mass Flow heating	Pressure loss heating	Cooling output, total[2]	Cooling output, sensitive	Outlet air temperature	Mass Flow cooling	Pressure loss cooling	Power consumption	Current consumption	SFP	Sound pressure level[3]	Sound power level
	[V]	[m³/h]	[W]	[°C]	[l/h]	[kPa]	[W]	[W]	[°C]	[l/h]	[kPa]	[W]	[mA]	[Ws/m³]	[dB(A)]	[dB(A)]
1	10	249	1439	37,4	248	3,2	1228	951	15,3	212	2,7	19,9	163	288	41	49
	8	196	1223	38,8	211	2,4	1030	797	14,4	177	2,0	13,6	121	250	34	42
	6	144	972	40,3	167	1,6	776	601	13,9	134	1,2	9,3	90	233	26	34
	4	91	674	42,2	116	0,8	541	419	12,2	93	0,6	6,4	67	250	17	25
	2	39	312	44,1	54	0,2	221	171	11,0	38	0,1	4,3	49	402	10	18
2	10	369	2215	38,1	381	9,8	1974	1529	14,2	340	9,1	27,3	233	266	40	48
	8	326	2029	38,7	349	8,3	1795	1390	13,8	309	7,6	22,6	201	250	36	44
	6	239	1611	40,3	278	5,5	1402	1086	12,7	241	4,9	15,4	149	233	28	36
	4	152	1117	42,2	192	2,8	937	725	11,5	161	2,4	10,5	111	250	19	27
	2	65	520	44,2	90	0,7	381	295	10,3	66	0,5	7,2	82	401	12	20
3	10	509	2874	37,0	495	18,9	2508	1942	14,5	432	17,0	35,4	302	251	41	49
	8	445	2633	37,8	453	16,1	2280	1766	14,1	393	14,3	29,3	260	237	37	45
	6	317	2091	39,9	360	10,6	1783	1381	13,0	307	9,2	20,0	193	227	29	37
	4	189	1450	43,1	250	5,5	1209	936	11,6	208	4,6	13,7	143	261	20	28
	2	61	675	53,2	116	1,4	523	405	9,4	90	1,0	9,3	106	550	13	21

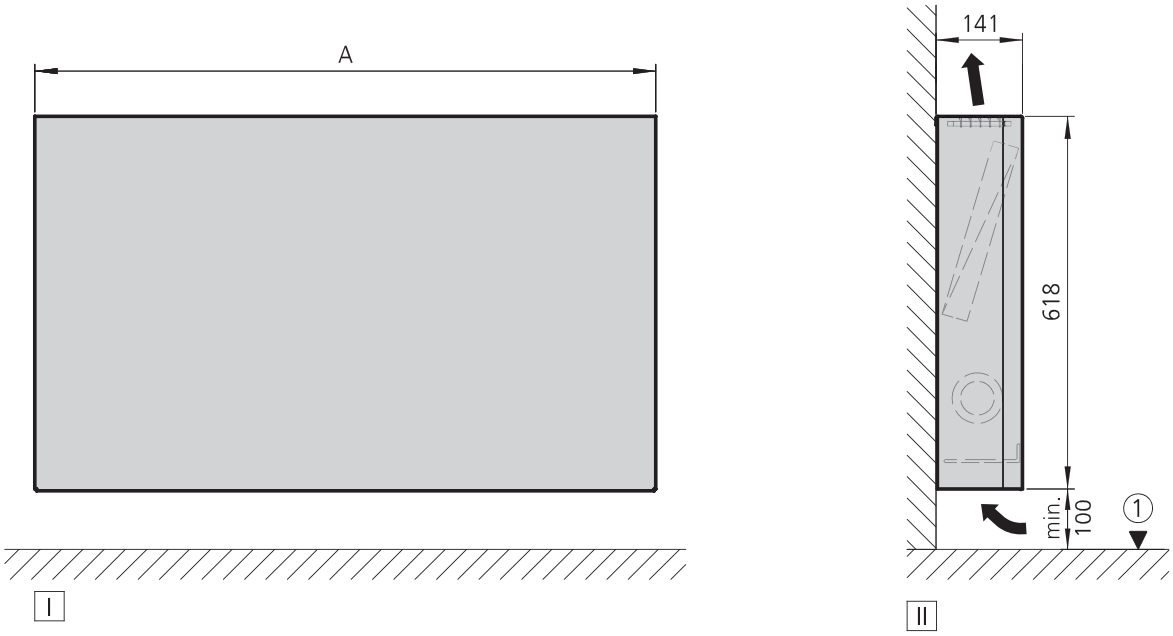
[1] at LPHW 45/40 °C, t_{L1} = 20 °C
[2] at CHW 7/12 °C, t_{L1} = 27 °C, 48 % relative humidity
[3] The sound pressure levels were calculated with an assumed room insulation of 8 dB(A).

Use our calculation tools on our website to easily calculate heat outputs and other technical data with just a few clicks!
> https://go.kampmann.co.uk/PowerkonLT

PowerKon LT

Control option thermostat
Unit design Heating

Technical drawing (Dimensions in mm)



View
I Front view
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III Top view

Further information
① Upper edge of finished floor

Specifications

Type	Model size	Length (A)	Weight	Water content	Connection
		[mm]	[kg]	[l]	
129001*1020*N1	1	780	18	0,8	1/2", One-sided
129001*2020*N1	2	1030	20	1,2	1/2", One-sided
129001*3020*N1	3	1220	22	1,5	1/2", One-sided

Performance data

Model size	Switching stage	Air flow	Heat output[1)]	Outlet air temperature	Mass Flow heating	Pressure loss heating	Power consumption	Current consumption	SFP	Sound pressure level[2)]	Sound power level
		[m³/h]	[W]	[°C]	[l/h]	[kPa]	[W]	[mA]	[Ws/m³]	[dB(A)]	[dB(A)]
1	3	246	1429	37,5	246	3,2	19,5	161	286	40	48
	2	170	1102	39,5	190	2,0	11,3	104	238	30	38
	1	110	784	41,5	135	1,0	7,3	74	238	20	28
2	3	369	2215	38,1	381	9,8	27,3	233	266	40	48
	2	265	1744	39,8	300	6,3	17,3	163	235	30	38
	1	160	1171	42,0	202	3,1	11	114	246	20	28
3	3	502	2850	37,1	491	18,6	34,8	298	249	40	48
	2	336	2178	39,5	375	11,4	21,2	202	227	30	38
	1	189	1450	43,1	250	5,5	13,7	143	261	20	28

[1)] at LPHW 45/40 °C, t_{L1} = 20 °C

[2)] The sound pressure levels were calculated with an assumed room insulation of 8 dB(A).

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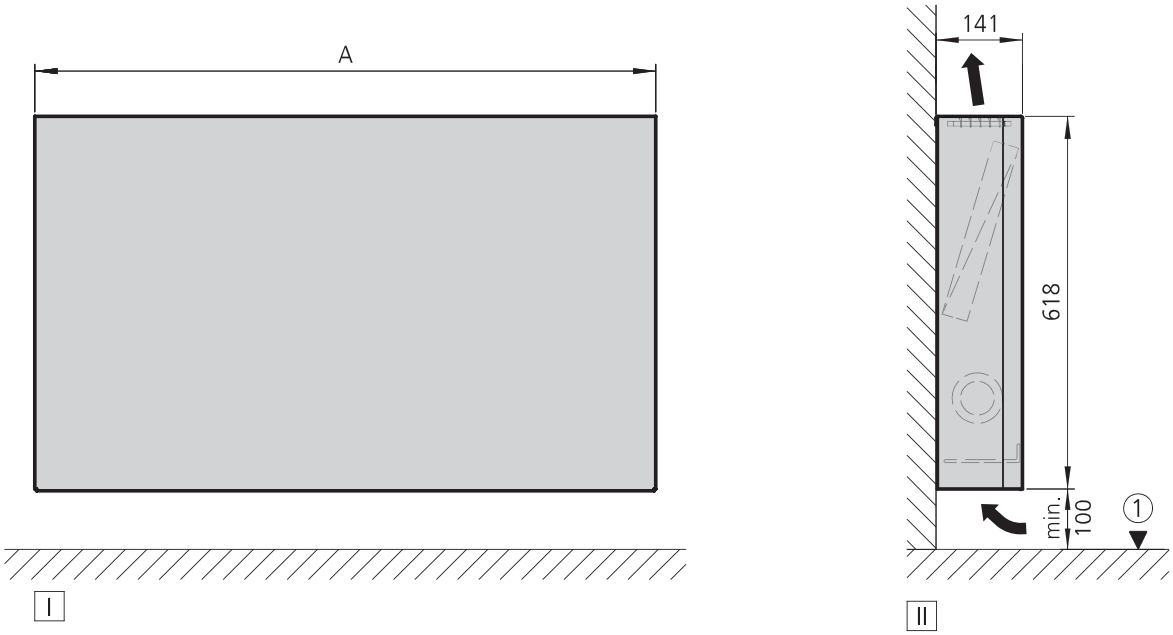
PowerKon LT

Control option Display
Unit design Heating or cooling

Technical drawing (Dimensions in mm)



View
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III Top view

Further information
① Upper edge of finished floor

Specifications

Type	Model size	Length (A)	Weight	Water content	Connection
		[mm]	[kg]	[l]	
129001*1020*N2	1	780	18	0,8	1/2", One-sided
129001*2020*N2	2	1030	20	1,2	1/2", One-sided
129001*3020*N2	3	1220	22	1,5	1/2", One-sided

Performance data

Model size	Control voltage	Air flow	Heat output[1]	Outlet air temperature	Mass Flow heating	Pressure loss heating	Cooling output, total[2]	Cooling output, sensitive	Outlet air temperature	Mass Flow cooling	Pressure loss cooling	Power consumption	Current consumption	SFP	Sound pressure level[3]	Sound power level
		[m³/h]	[W]	[°C]	[l/h]	[kPa]	[W]	[W]	[°C]	[l/h]	[kPa]	[W]	[mA]	[Ws/m³]	[dB(A)]	[dB(A)]
1	3	246	1429	37,5	246	3,2	1219	944	15,2	210	2,7	19,5	161	286	40	48
	2	170	1102	39,5	190	2,0	877	679	14,6	151	1,5	11,3	104	238	30	38
	1	110	784	41,5	135	1,0	629	487	12,8	108	0,8	7,3	74	238	20	28
2	3	369	2215	38,1	381	9,8	1974	1529	14,2	340	9,1	27,3	233	266	40	48
	2	265	1744	39,8	300	6,3	1525	1181	13,1	263	5,7	17,3	163	235	30	38
	1	160	1171	42,0	202	3,1	998	773	11,5	172	2,6	11	114	246	20	28
3	3	502	2850	37,1	491	18,6	2485	1925	14,5	428	16,8	34,8	298	249	40	48
	2	336	2178	39,5	375	11,4	1862	1442	13,2	321	9,9	21,2	202	227	30	38
	1	189	1450	43,1	250	5,5	1209	936	11,6	208	4,6	13,7	143	261	20	28

[1] at LPHW 45/40 °C, t_{L1} = 20 °C
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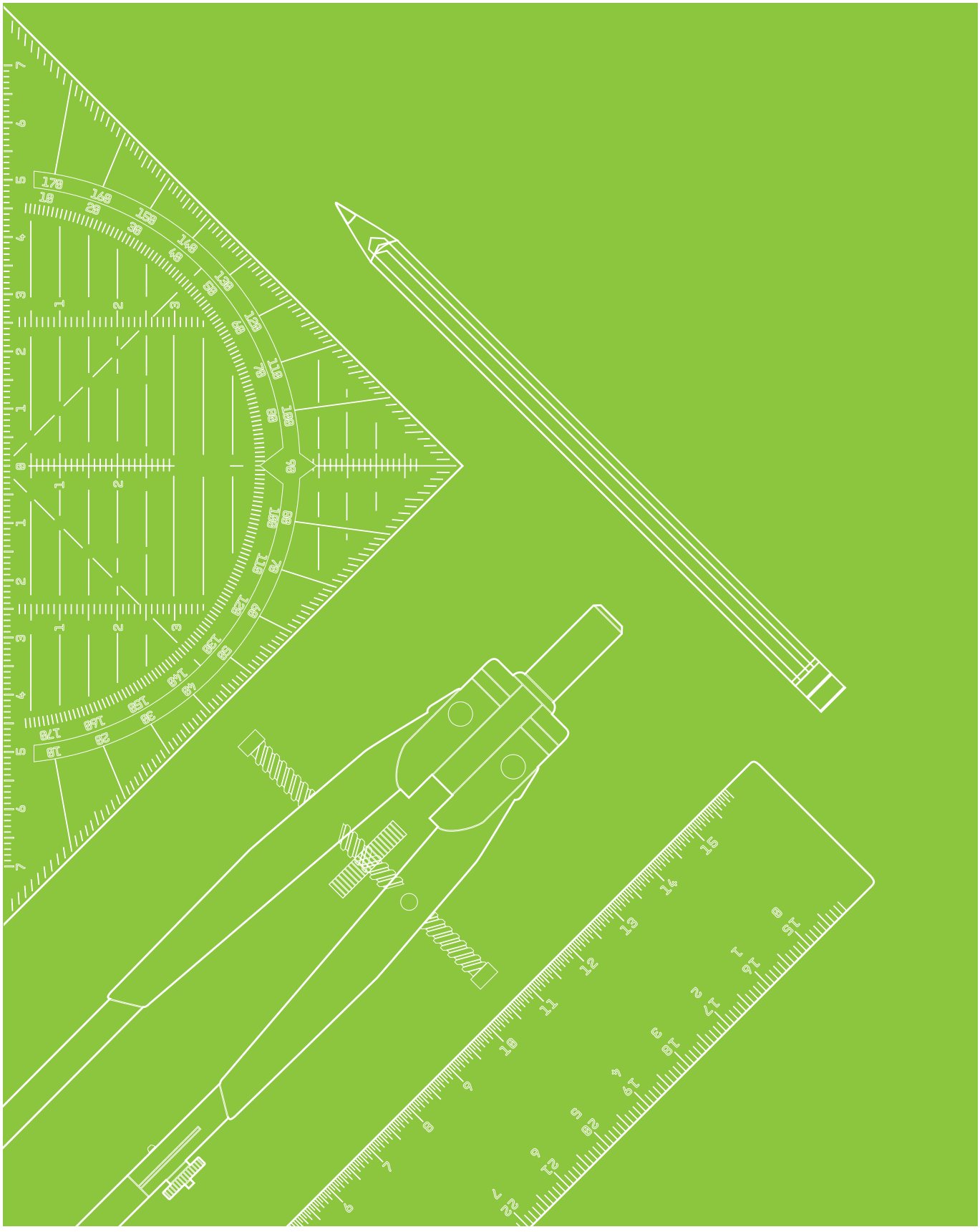
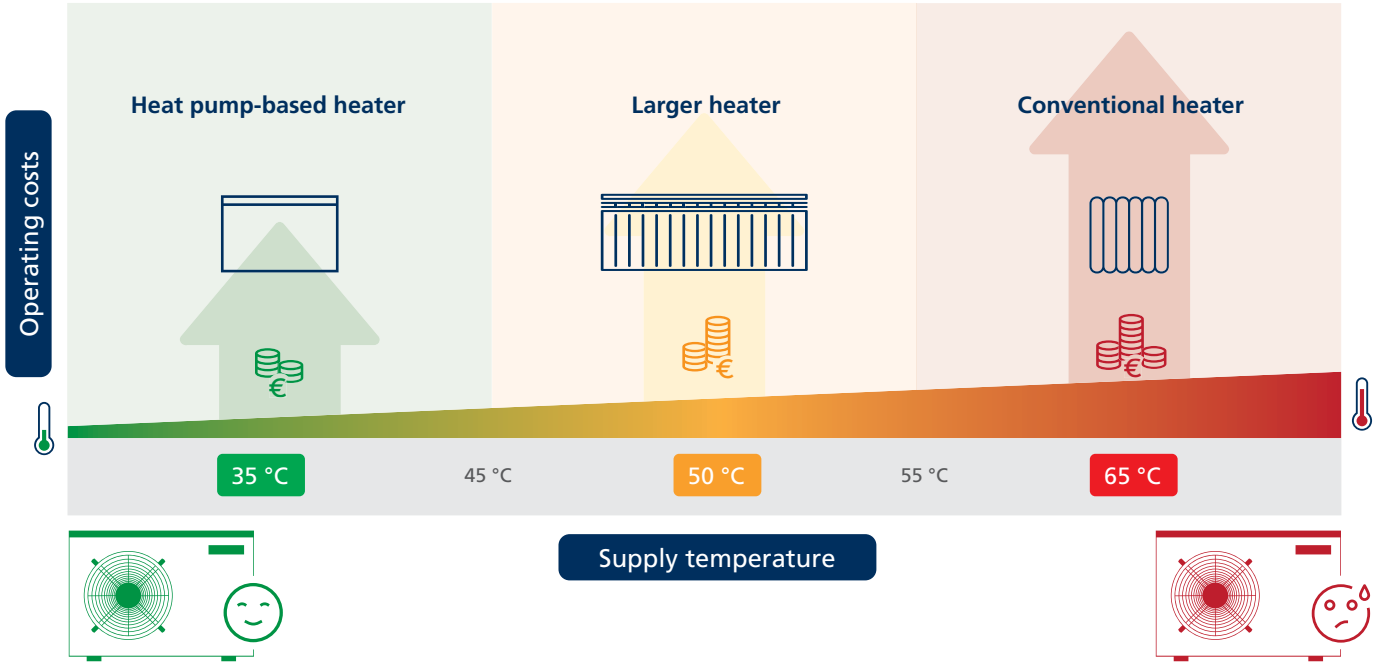
03 Design information



Information on planning and design

Reducing the system temperature is the key to an efficient heat pump. By lowering the system temperatures from e.g. 65 °C to a very low value (e.g. 35 °C), the power consumption of the heat pump can be reduced by up to 30 %.



The PowerKon LT can be designed for the required system temperature using the Design program on the Kampmann website.

Replacing existing heaters
Particularly in detached houses, often a few heaters can limit the reduction of the system temperature. It is essential to produce an (approximate) heat load calculation for the rooms to identify the limiting radiators. The performance data of the existing heaters can be found in the relevant tables.

If the output of the heaters is below the required heat loss of the room, then these heaters should be replaced by a PowerKon LT unit with a sufficient output.

Water volume flows
Lower spreads of 5 – 10 K with heat pumps result in higher water volume flows than before. The heat exchanger and values of the PowerKon LT have been optimised accordingly. As a result, the dimensions of the on-site pipes need to be checked.

Cooling function
PowerKon LT units can deliver wet cooling. However, a condensate drain needs to be provided for this purpose. Any pipes on site require a vapour-diffusion-proof insulation to enable wet cooling, otherwise the rooms can only be cooled by the limited output of a dry cooling system.

> go.kampmann.co.uk/PowerkonLT

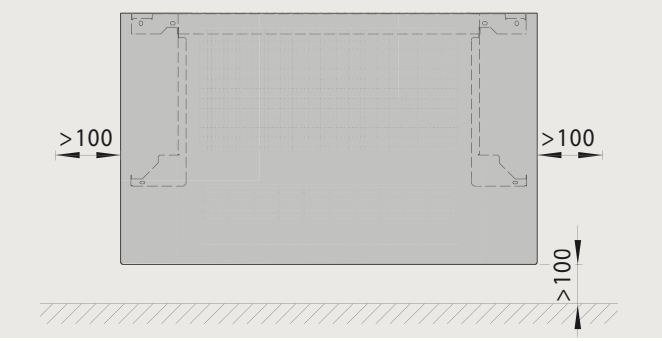
Design information

Choice of the installation site

Generally, PowerKon LT can be used in both new and existing buildings. The following requirements need to be taken into account when selecting the installation site:

- No obstacles to air distribution and air intake area
- Option to inspect the entire unit
- Compliance with minimum distances
- Ideally with refurbishments: Replacement of the existing heater

This area needs to be kept as free as possible to ensure that air can flow freely out of the air outlet grille. Window sills should be a minimum of 10 cm from the air outlet and should not protrude more than 12 cm into the room. It could affect the air flow if these distances cannot be achieved.



Acoustics

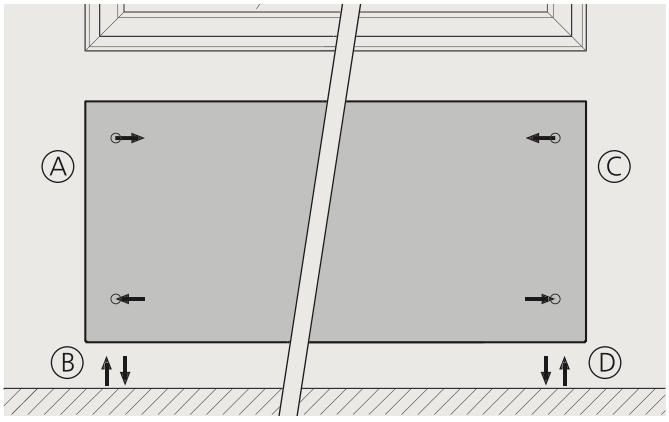
Noise-optimised quiet EC fans are fitted in the PowerKon LT. The respective sound pressure and sound power levels of the heat pump-based heaters are listed in the technical data tables. The sound pressure levels were calculated according to VDI 2081 with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s. However, because the sound pressure level is not only influenced by the PowerKon LT itself, but also very strongly by the acoustic properties of the room, the value may deviate in practice. We would recommend designing PowerKon LT taking into account the respective permitted sound pressure level in the room.

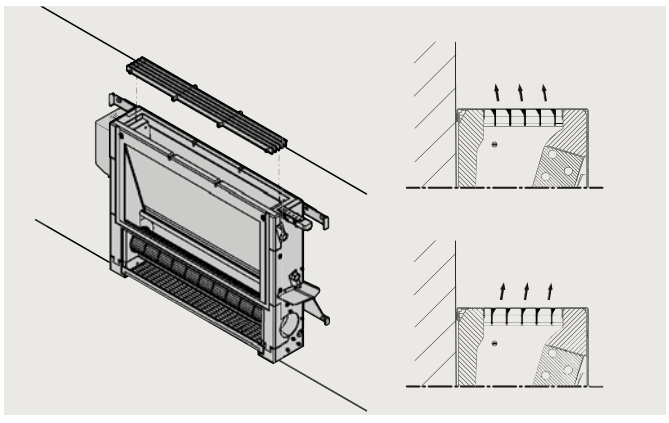
Connection options

The PowerKon LT features a wide range of connection options. The design of the unit enables existing pipes in the wall or floor to continue to be used in case of refurbishments.

Automatic hydraulic balancing

Differential pressure-independent valves maximise the volume flow of the heating/cooling medium to the set value. Regardless of the pipework network or the available pressure, each heat consumer receives only the volume intended for it. The system is considered hydraulically balanced as soon as each heat consumer is supplied with sufficient output.

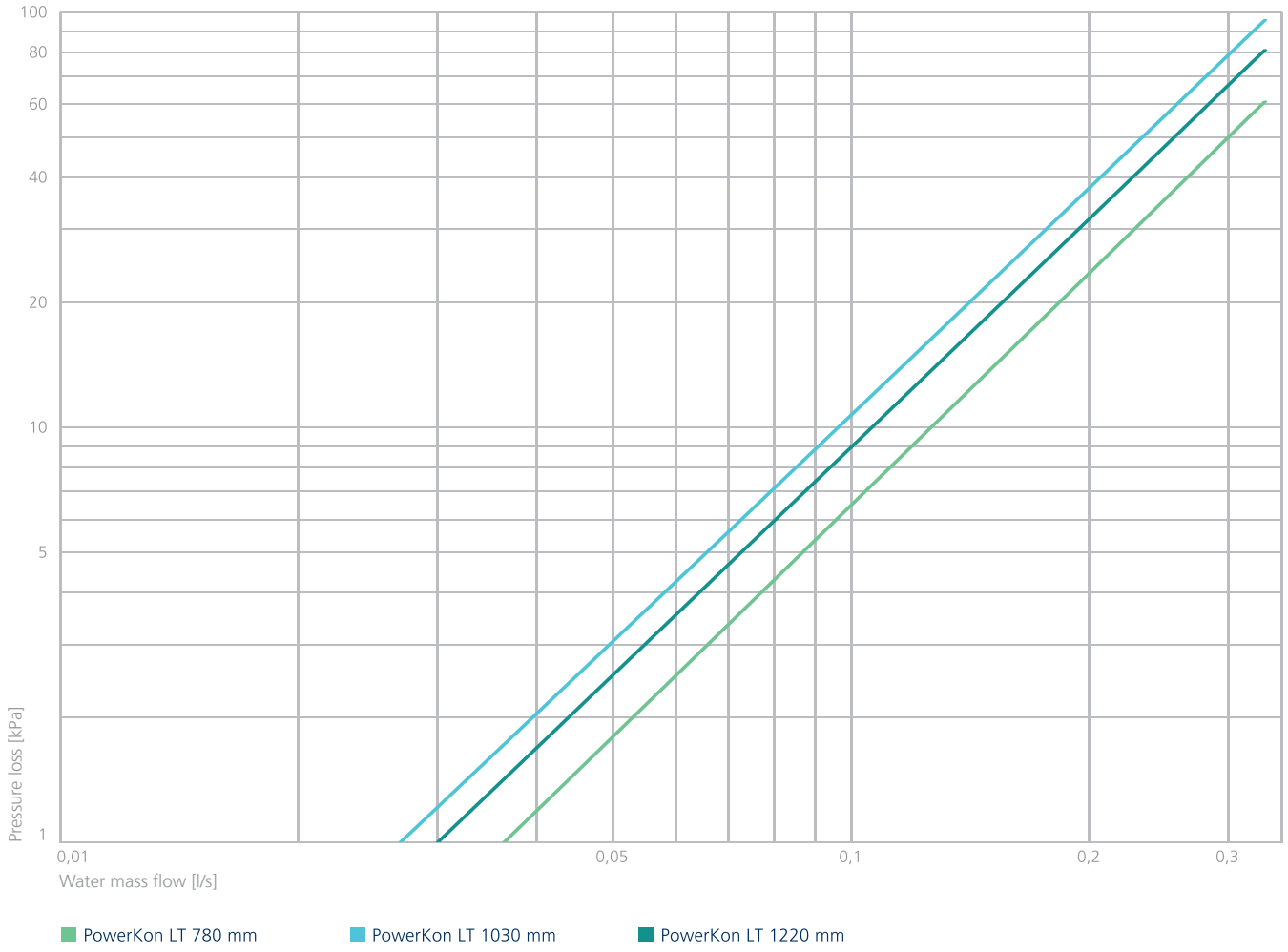




Optional air outlet

The special grille of the PowerKon LT can impact the air flow depending on the installation position. As standard, the air is directed to the wall in order to distribute the conditioned air comfortably into the room. If the PowerKon LT is installed in a recess, the grille can be easily rotated. The air is then discharged directly from the recess into the room.

Heat exchanger pressure loss diagram

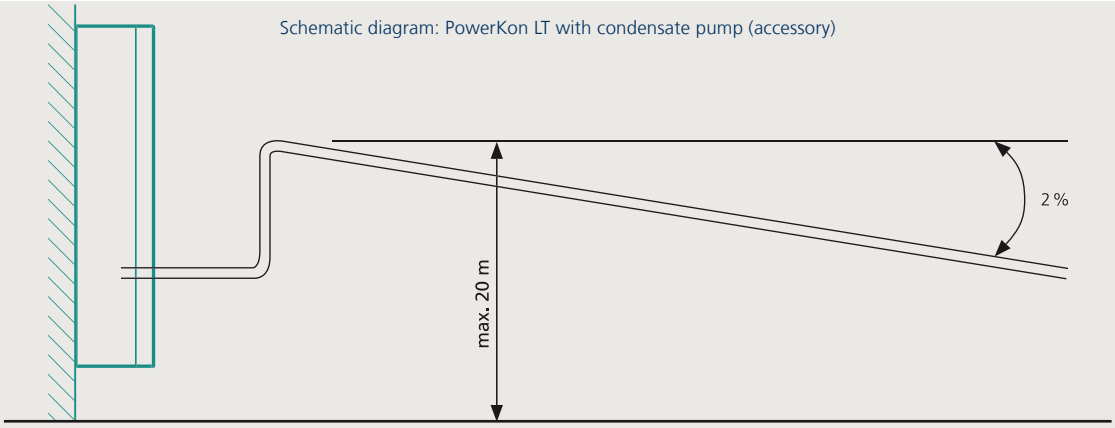


Condensate drain

PowerKon LT + condensate pump

Condensate is produced if the heat pump-based heaters are operated at system temperatures below the dew point. The condensate from the heat exchanger drips into the condensate tray below and can be discharged from both the left and right sides of the condensate tray. In order to discharge the condensate without any problems and without mechanical assistance, the condensate must be directed into a rigid line with a 2 % gradient to a suitable disposal point. With an optional condensate pump, the resulting condensate can even be transported to the next disposal point without a pipe on a gradient. The condensate level is monitored by a capacitive sensor. Depending on the level of the tank, the condensate pump is activated, while the speed of the pump and thus the flow rate vary. The pump has a maximum sound power level of 20 dB(A) and can overcome a delivery head of up to 20 m.

Schematic diagram: PowerKon LT with condensate pump (accessory)



04 Control technology

Description of PowerKon LT electromechanical control (*00)

Product features
All factory-fitted actuators are wired to the terminal with the electromechanical model. The appropriate terminals are available on site for valve actuators or a condensate pump.

Fans
The fan speed of the EC fans used can be continuously variably controlled by a 0 – 10 V DC signal. The "intelligent" motor electronics detect any possible motor malfunction and switch off the fan automatically.

Control units
Two different control units are available for operation and control.

Room thermostat type 196000342924 (heating only)

with continuously variable fan speed control for surface-mounted wall installation with a visually understated design

Product features:
- 2-pipe application, thermal valve actuator 24 V AC Open/Closed, normally closed
- ABS plastic housing, functional and robust design in pure white similar to RAL 9010 for surface-mounting on a flush back box
- Simple operation via a large rotary knob for temperature setting with mechanical restriction of the temperature setpoint, fan speed pre-setting using a rotary knob
- Comfort/ECO control input
- Room frost protection function < 5 °C
- Internal room temperature sensor
- Parallel operation of up to three units is possible

Room thermostat surface mounted, type 196000030155 (heating and cooling)

Product features:
- 2- and 4-pipe applications, thermal valve actuators 230 V AC Open/Closed, normally closed
- ABS plastic housing, functional and robust design in pure white similar to RAL 9010 for surface-mounting on a flush back box or surface-mounting using a surface-mounted frame (accessory)
- Simple operation using a large turning knob for temperature setting with mechanical range limitation of the temperature setpoint, operating mode selector switch, standby, manual fan, automatic fan, 3-stage switch for pre-selecting the fan speed when the operating mode selector switch is in the "Manual fan" position
- Control input for heating/cooling switch-over with 2-pipe systems
- Control input can either be set to Comfort/ECO or ON/OFF switch-over
- Room frost protection function < 5 °C heating valve open, fan stage 3
- Optional use of the internal or external room temperature sensor (accessory)
- Parallel operation of a maximum of five units is possible

Operation using on-site systems

Control via analogue and digital signals is also possible as an alternative to the Kampmann control units.
The following analogue and digital inputs and/or outputs are needed:
- Speed control via a 0 – 10 V DC signal, the fan starts up safely at 1.5 V DC
- Control input for the detection of a possible condensate alarm only with the electromechanical version with condensate pump
- Digital signals (24 V DC or 230 V AC) to control the valve actuator

Description of control: PowerKon LT with thermostatic head control (*N1)

Product features
Units with thermostatic head control are fully wired and supplied with all electrical components and a connection cable with a safety plug ex works. The internal control and two temperature sensors can be used to set the temperature with a commercially available radiator thermostat. Optionally, 3 level fan stages can be selected using a rocker switch.

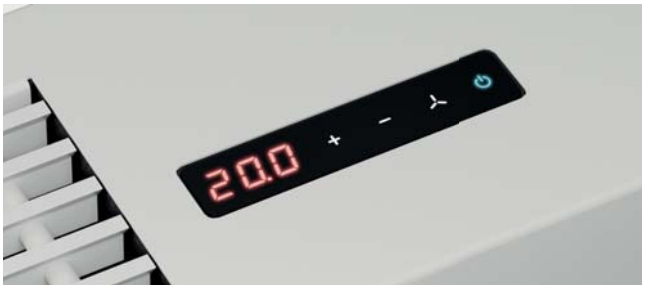
Fans
The fan speed of the EC fans used can be continuously variably controlled by the built-in control. The "intelligent" motor electronics detect any possible motor malfunction and switch off the fan automatically.

Description of control of PowerKon LT with display control (*N2)

Product features
Units with display control are fully wired and supplied with all electrical components and a connection cable with a safety plug ex works. The built-in powerful, parametrisable microprocessor control provides all the functions required for the PowerKon LT.
A grouping of up to 30 units can be created with minimal effort.

Fans
The fan speed of the EC fans used can be continuously variably controlled by the built-in control. The "intelligent" motor electronics detect any possible motor malfunction and switch off the fan automatically. A unit motor malfunction is indicated on the touch display.

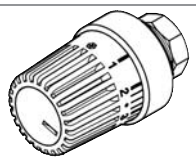
Control unit
A built-in touch display in the casing is available for operation and control. It offers the following functions:
- Setpoint display
- Temperature, fan stage setting and On/Off by means of capacitive buttons
- Automatic display shutdown 30 seconds after the last operation
- Access to parametrisation level



Controller functions
The parametrisable microprocessor control offers a wide range of functions:
- Room temperature control with 2-point valve control and demand-based fan control in automatic mode or optional fixed stage selection
- Room frost protection function —> Room temperature < 8 °C, heating valve open, fan in stage 1
- Built-in air intake temperature sensor
- Built-in flow sensor for automatic switch-over between heating and cooling
- Fan activation in heating mode when the water temperature is > 32 °C
- Fan activation in cooling mode when the water temperature is < 25 °C
- Motor and condensate monitoring
- Control input ON/OFF
- Password-protected parameter level

05 Ordering information

Accessories

Article		Properties	Dimensions [mm]	Suitable for	Article no.
Control accessories electromechanical 230 V					
	Room thermostat	with speed setting, for continuously variable control, 24 V DC, with thermal feedback, room temperature setting and speed pre-setting using a dial, Surface-mounted, Protection class IP 30, Temperature setting range 5 - 30 °C, Colour white, Type 342924	78 x 30 x 83	PowerKon LT	**194000342924**
	Room thermostat	Heating/Cooling, 2- and 4-pipe, 3-stage, only in conjunction with valves/valve kits with actuator, 230 V AC, Open/Closed, with OFF/Manual/Automatic fan switchover, Surface-mounted, Temperature setting range 5 - 30 °C, Colour similar to RAL 9010 pure white, Type 30155	110 x 111 x 26	PowerKon LT	**196000030155**
Valve kits					
	Pre-settable thermostatic valve	2-pipe, includes pre-adjustable valve, angled return shut-off valve, with 2 no. corrugated stainless steel pipes, Connection 1/2", Left, kvs value 1.7 m³/h		PowerKon LT, DN 15	**129012100201**
		2-pipe, includes pre-adjustable valve, angled return shut-off valve, with 2 no. corrugated stainless steel pipes, Connection 1/2", Right, kvs value 1.7 m³/h		PowerKon LT, DN 15	**129012200201**
	Differential pressure-independent thermostatic valve	2-pipe, includes pre-adjustable valve, angled return shut-off valve, with 2 no. corrugated stainless steel pipes, Connection 1/2", Left		PowerKon LT, Flow volume Cooling (min./max.) 35 - 420 l/h, DN 15	**129012100202**
		2-pipe, includes pre-adjustable valve, angled return shut-off valve, with 2 no. corrugated stainless steel pipes, Connection 1/2", Right		PowerKon LT, Flow volume Cooling (min./max.) 35 - 420 l/h, DN 15	**129012200202**
Connection accessories					
	Thermostatic valve head	Temperature setting range 7 - 28 °C	34 x 78 x 35	PowerKon LT	**194000110220**
	Thermostatic valve head	Temperature setting range 7 - 28 °C, Colour white	54 x 54 x 88	PowerKon LT	**194000110210**
Valve actuators					
	Thermoelectric actuator	Molex, 230 V AC, normally closed, 50 Hz, includes valve adapter, 1 W, Protection class IP 54		PowerKon LT	**129014000011**
		230 V AC, normally closed, 50 Hz, includes valve adapter, 1 W, Protection class IP 54			**129014000010**
		24 V AC/DC, normally closed, 50 Hz, includes valve adapter, 1 W, Protection class IP 54		PowerKon LT	**129014000020**

CONTINUED

Accessories

Article		Properties	Dimensions	Suitable for	Article no.
			[mm]		
Condensate tray/pump					
	Cooling accessory kit	Supplementary pack set for cooling with condensate accumulation for condensate drainage with natural slope, consisting of valve condensate tray, plug, drainage elbow and double nipple with 16 mm hose connection, connection on left, provided		PowerKon LT	**129013100000**
	Cooling accessory kit	Supplementary pack set for cooling with condensate accumulation for condensate drainage with natural slope, consisting of valve condensate tray, plug, drainage elbow and double nipple with 16 mm hose connection, connection on the right, provided		PowerKon LT	**129013200000**
	Condensate pump set (supplied)	Condensate pump for cooling below the dew point, for discharging accumulated condensate, 50 - 60 Hz, consisting of valve condensate tray, plug, condensate pump and condensate pump accessories, 12 W, protection class IP 44, connection left, provided		PowerKon LT	**129013110000**
	Condensate pump set (factory mounted)	Condensate pump for cooling below the dew point, for discharging accumulated condensate, 50 - 60 Hz, consisting of valve condensate pan, plug, condensate pump and condensate pump accessories, 12 W, protection class IP 44, connection on the left, factory-mounted		PowerKon LT	**129013111000**
	Condensate pump set (supplied)	Condensate pump for cooling below the dew point, for discharging accumulated condensate, 50 - 60 Hz, consisting of valve condensate tray, plug, condensate pump and condensate pump accessories, 12 W, protection class IP 44, connection on the right, provided		PowerKon LT	**129013210000**
	Condensate pump set (factory mounted)	Condensate pump for cooling below the dew point, for discharging accumulated condensate, 50 - 60 Hz, consisting of valve condensate pan, plug, condensate pump and condensate pump accessories, 12 W, protection class IP 44, connection on the right, factory-mounted		PowerKon LT	**129013211000**

Additional colours

Surcharge for RAL standard color	price per m	PowerKon LT	**129007010011**
Surcharge for RAL colour of your choice	price per m	PowerKon LT	**129007010012**
Surcharge for change of colour	of the powder-coating to the colour version quoted	PowerKon LT	**129007010010**

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