

A photograph of an industrial interior. The ceiling is made of white corrugated metal. A yellow overhead crane with blue motors is visible at the top. A unit heater with a silver fan is mounted on the wall. A yellow pulley system with a green strap and orange hooks hangs from the ceiling. The wall is white with horizontal panels. A window is visible on the right side.

# Unit heaters

Heating, cooling or ventilation  
in large spaces, industrial sheds  
and shop floors

Genau  
mein  
Klima.

**KAMPMANN**

# Contents

Unit heaters are the equipment of choice when it comes to the ultra-efficient and economical air conditioning of large spaces. The range of wall- or ceiling-mounted units ranges from simple industrial uses in factory sheds to high-end comfort systems in retail stores and sophisticated large spaces. The air circulation provided by the fan built into these decentralised units offers fast and flexible temperature control in high-ceilinged buildings in which the air tends to accumulate under the ceiling resulting in high heat losses. Traditionally, unit heaters have been used for heating but, as chilled water systems, they are also ideal for cooling. Moreover, as recirculating air, mixed air or primary air units, they can also operate as ventilation units. Simple product variants can also be used as site heaters for building shells and to dry out the interiors of buildings.

The key benefits of unit heaters include their direct heating of indoor air without the need for additional heat carriers, and the fast and decentralised temperature control of large spaces – also as a component of hybrid systems with centralised ventilation.

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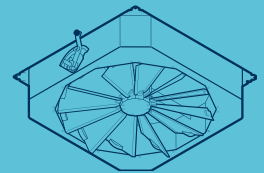
Resistent

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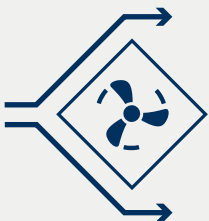
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Service

# We are one of the market leaders, thanks to our myriad options.

With over 1000 employees at 15 sites around the world, Kampmann is one of the major players in the construction and building services sector. **Kampmann systems for heating, cooling and ventilation are at the forefront of different market segments today.**

Genau mein Klima.

**KAMPMANN**



1000+

Kampmann Group employees

811

Unit heater product variants in the standard range alone



Headquarters



		Heating	Supply air	Cooling	Heat output in [KW]	Cooling output in [KW]	Air volume in [m <sup>3</sup> /h]
<b>TOP</b>	 I would like to heat and ventilate my factory sheds and workshops.	✓	✓	✗	3.9 – 109.1 <sup>3)</sup>	✗	260 - 12230
<b>TOP C</b>	 I would like to heat or cool my factory shed with a single unit.	✓	✓	✓	4.4 – 63.2 <sup>3)</sup>	1.1–24.5 <sup>2)</sup>	480 - 6600
<b>TIP</b>	 I would like a cost-effective industrial shed heating system.	✓	✗	✗	5.1–49.8 <sup>1)</sup>	✗	370 - 5830
<b>Site heaters</b>	 I would like a mobile heater for my construction site.	✓	✗	✗	5.1–49.8 <sup>1)</sup>	✗	370 - 5830
<b>Ultra</b>	 I would like to heat, cool and ventilate high-end large spaces.	✓	✓	✓	6.0 – 53.6 <sup>4)</sup>	1.4 – 14.0 <sup>2)</sup>	590 - 5620
<b>Resistent</b>	 I would like to heat extreme sites in a corrosion-proof manner.	✓	✗	✓ optional	5.6 – 44.0 <sup>1)</sup>	✗	650 - 4750

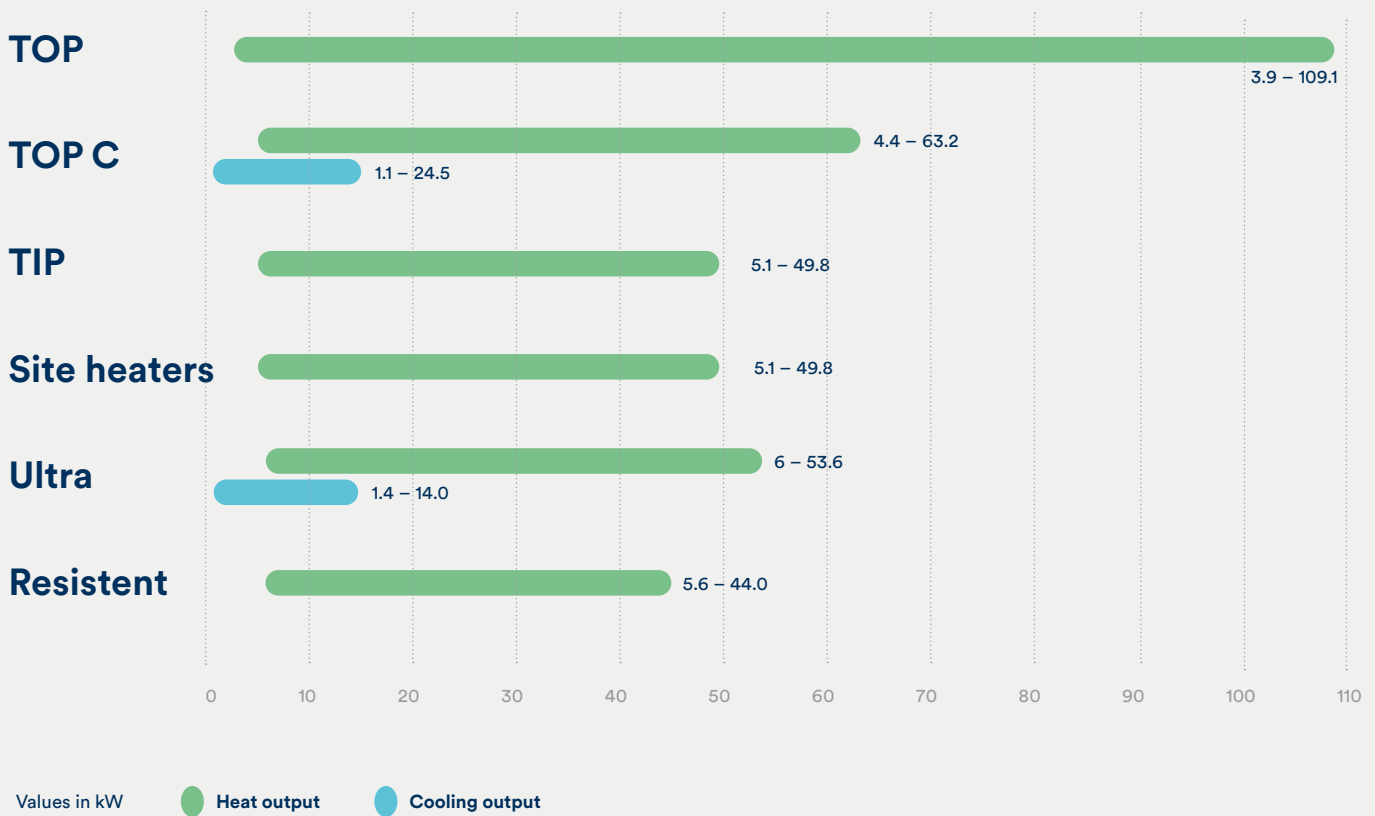
<sup>1)</sup> at LPHW 75/65 °C, room temperature = 20 °C

<sup>2)</sup> at CHW 16/18 °C, room temperature = 27 °C, 48 % rel. humidity

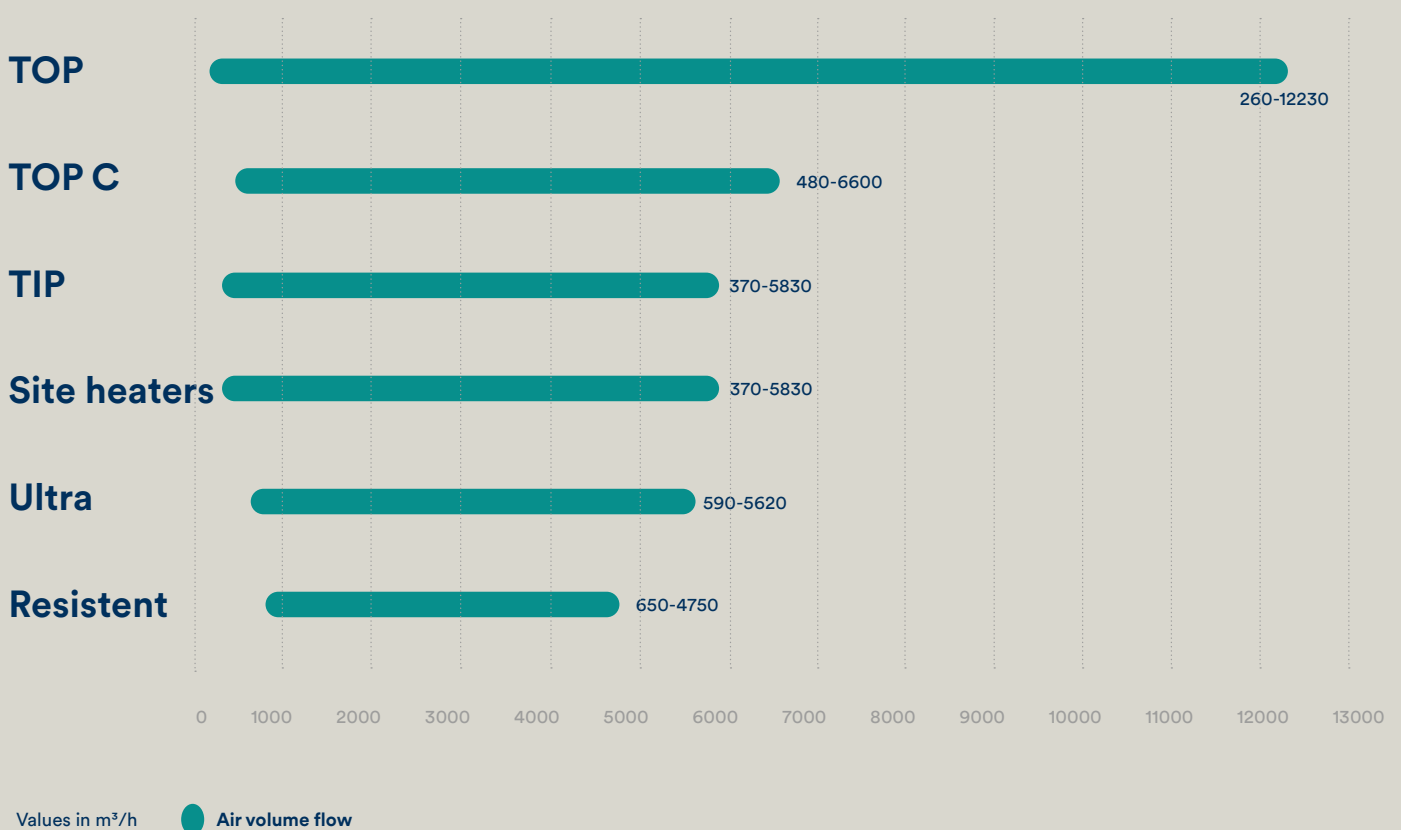
<sup>3)</sup> at LPHW 75/65 °C, room temperature = 20 °C, with fan-assisted convection/when operating with an electric heating coil

<sup>4)</sup> electrical heat output with BMS control voltage 2 – 10 V

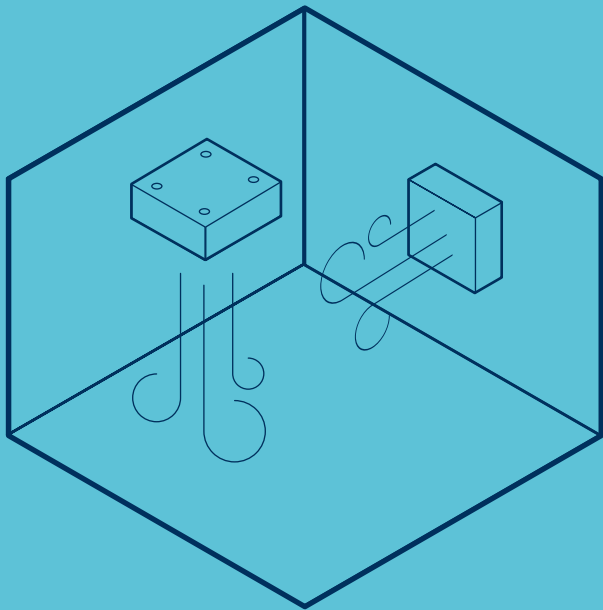
# Heat and cooling outputs



# Air volume flow



# Installation options



## Wall-mounted

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TOP

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TOP C

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TIP

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Site heaters

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Resistent

## Ceiling-mounted

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TOP

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TOP C (horizontal air outlet)

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TIP

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Site heaters

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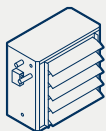
Ultra

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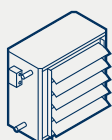
Resistent

# Always fits

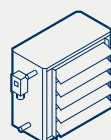
TOP | TOP C



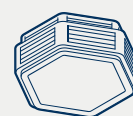
TIP



Site heaters



Ultra





# Industry



# Retail outlets

# TOP

Wall- and ceiling-mounted unit heaters – the warm air solution for industrial sheds. TOP for where the conditions are tough.

Heating:  
LPHW

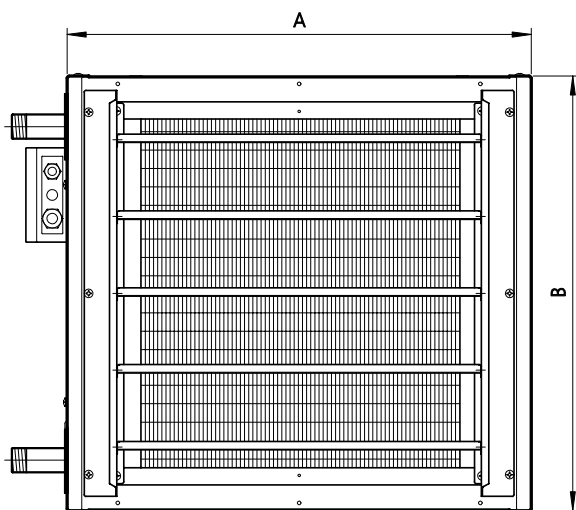
Supply air in conjunction with centralised ventilation system

Whisper-quiet:  
thanks to EC technology and whisper-quiet sickle-blade fans

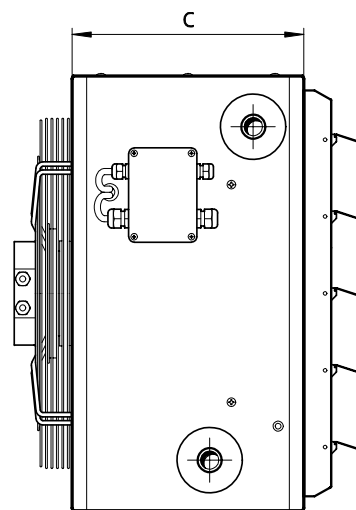


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Unit heaters

Front view



Side view



## Technical data

### Copper-aluminium or galvanised steel heat exchanger

Type	Size	Height	Width	Depth	Heat output <sup>1)</sup>	Air volume flow	Heat output <sup>1)</sup>	Air volume flow
		B	A	C	Copper-aluminium		Galvanised steel	
		[mm]	[mm]	[mm]	[kW]	[m <sup>3</sup> /h]	[kW]	[m <sup>3</sup> /h]
EC fan, 230 V, high speed	4	500	540	320	6.4 – 18.4	520 – 2720	6.0 – 18.1	550 – 2770
	5	600	640	320	4.4 – 37.5	260 – 4860	7.4 – 34.0	640 – 4800
	6	700	740	320	6.9 – 48.7	430 – 6900	9.5 – 44.0	790 – 5860
	7	800	840	360	14.2 – 71.4	970 – 9680	14.4 – 59.1	1180 – 8900
	8	900	940	670	19.2 – 89.4	1370 – 11800	19.3 – 89.6	1920 – 12230
EC fan, 230 V, low speed	4	500	540	320	5.8 – 15.3	450 – 2210	5.5 – 14.9	480 – 2200
	5	600	640	320	6.5 – 26.0	480 – 3370	9.0 – 24.8	850 – 3420
	7	800	840	360	10.7 – 55.6	590 – 7820	12.1 – 46.4	910 – 7070

### Galvanised steel, cross-counterflow heat exchanger Galvanised steel heat exchanger for steam

Type	Size	Height	Width	Depth	Heat output <sup>2)</sup>	Air volume flow	Heat output <sup>3)</sup>	Air volume flow
		B	A	C	Galvanised steel, cross-counterflow		Galvanised steel for steam	
		[mm]	[mm]	[mm]	[kW]	[m <sup>3</sup> /h]	[kW]	[m <sup>3</sup> /h]
EC fan, 230 V, high speed	4	500	540	320	4.4 – 13.4	550 – 2770	8.3 – 30.5	650 – 2770
	5	600	640	320	5.9 – 21.7	640 – 4800	10.0 – 51.6	760 – 4800
	6	700	740	320	7.6 – 31.1	790 – 5860	14.3 – 65.0	920 – 5860
	7	800	840	360	14.2 – 49.2	1180 – 8900	24.2 – 107.7	1540 – 8900
	8	900	940	670	–	–	–	–
EC fan, 230 V, low speed	4	500	540	320	3.9 – 11.7	480 – 2200	7.5 – 26.0	560 – 2200
	5	600	640	320	7.5 – 17.8	850 – 3420	12.7 – 40.8	1080 – 3420
	7	800	840	360	12.3 – 41.3	910 – 7070	20.7 – 91.9	1230 – 7070

### No heat exchanger

Type	Size	Height B	Width A	Depth C	Air volume flow
		[mm]	[mm]	[mm]	[m <sup>3</sup> /h]
EC fan, 230 V, high speed	4	500	540	320	1750 – 4220
	5	600	640	320	930 – 6170
	6	700	740	320	1370 – 8400
	7	800	840	360	2000 – 11800
	8	900	940	670	2510 – 14480
EC fan, 230 V, low speed	4	500	540	320	1460 – 3630
	5	600	640	320	1940 – 5370
	7	800	840	360	1780 – 9740

<sup>1)</sup> heat output at LPHW 75/65 °C, room temperature 20 °C

<sup>2)</sup> heat output at LPHW 80/40 °C, room temperature 20 °C

<sup>3)</sup> heat output at 0.1 bar saturated steam, room temperature 20 °C

# TOP C

Wall-mounted units for warehouses, production and sales.

Versatile air conditioning solution, thanks to fast-response heating and cooling.

Heating:  
LPHW

Cooling:  
CHW

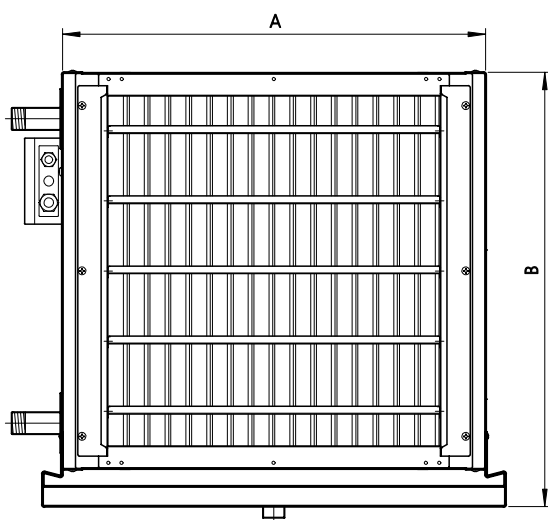
Supply air in conjunction with centralised ventilation system

Whisper-quiet:  
thanks to EC technology and whisper-quiet sickle-blade fans

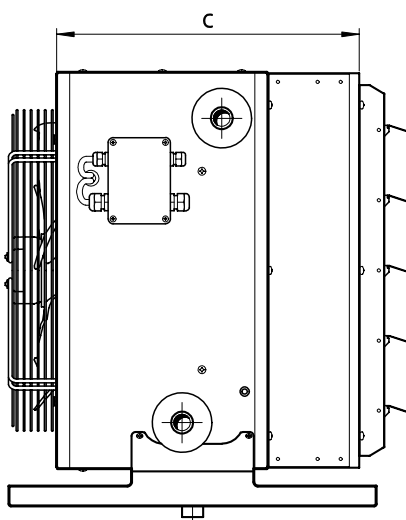


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Unit heaters

Front view



Side view



## Technical data

Copper-aluminium heat exchanger

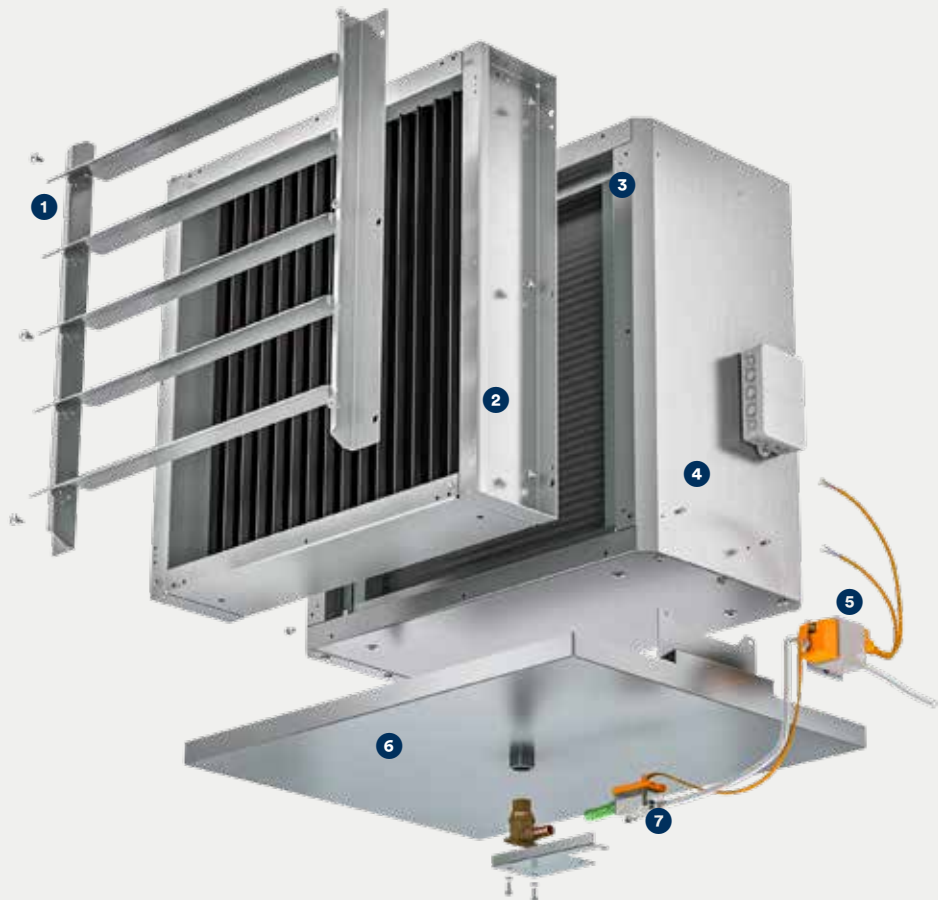
Type	Size	Height B [mm]	Width A [mm]	Depth C [mm]	Heat output <sup>1)</sup> [kW]	Cooling output <sup>4)</sup> [kW]	Cooling output <sup>5)</sup> [kW]	Air volume flow [m³/h]
EC fan, 230 V, high speed	4	575	600	570	6.1 – 15.5	2.2 – 5.1	1.2 – 2.6	420 – 1890
	5	675	700	570	4.4 – 31.9	2.3 – 9.6	1.2 – 4.7	210 – 3580
	6	775	800	570	7.3 – 42.6	3.6 – 15.6	1.7 – 7.3	340 – 4640
	7	875	900	570	12.6 – 63.2	6.2 – 24.5	3.1 – 11.4	780 – 7250
EC fan, 230 V, low speed	4	575	600	570	5.4 – 13.2	2.1 – 4.5	1.1 – 2.3	360 – 1550
	5	675	700	570	6.1 – 22.1	2.8 – 7.0	1.4 – 3.5	380 – 2420
	7	875	900	570	10.4 – 48.5	5.4 – 19.3	2.7 – 9.1	470 – 5430

<sup>1)</sup> heat output at LPHW 75/65 °C, room temperature 20 °C

<sup>4)</sup> cooling output at CHW 7/12 °C, room temperature 27 °C, 48 % rel. humidity

<sup>5)</sup> cooling output at CHW 16/18 °C, room temperature 27 °C, 48 % rel. humidity

## At a glance



- 1 Louvre, single-row
- 2 Droplet separator
- 3 Heat exchanger
- 4 Unit heater / cooling unit  
with housing
- 5 Condensate pump (optional)
- 6 Condensate tray
- 7 Float switch (optional)

# TIP

Wall and ceiling-mounted units. **Compact heating.**

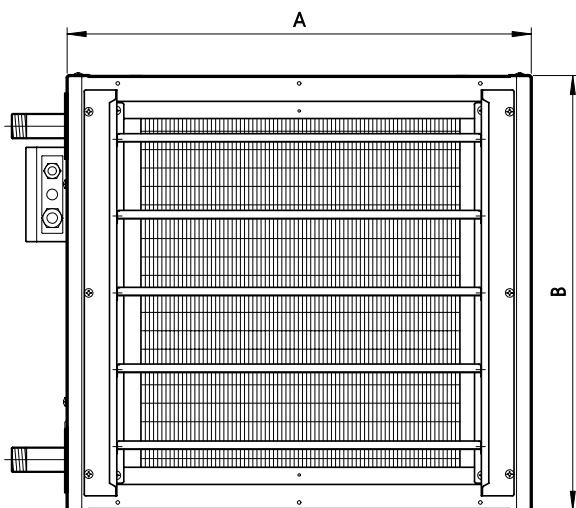
Heating:  
LPHW

Whisper-quiet:  
thanks to EC technology and whisper-quiet sickle-blade fans

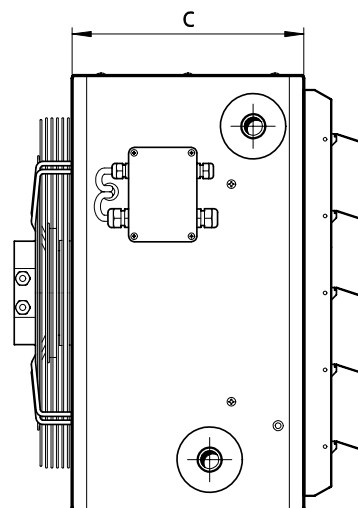


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Unit heaters

Front view



Side view



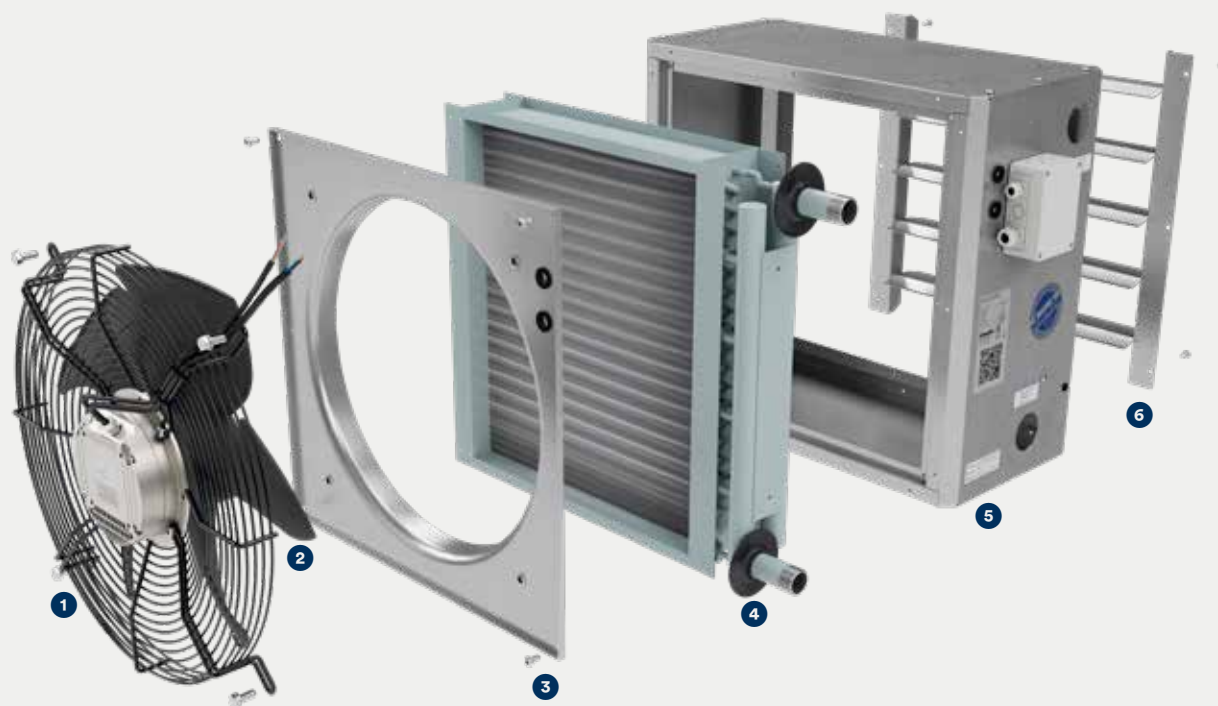
## Technical data

Copper-aluminium heat exchanger

Type	Size	Height	Width	Depth	Heat output <sup>1)</sup>	Air volume flow
		B	A	C		
		[mm]	[mm]	[mm]	[kW]	[m <sup>3</sup> /h]
EC fan	4	500	540	320	5.1 – 18.1	370 – 2640
	5	600	640	320	10.0 – 38.9	890 – 4940
	6	700	740	320	12.8 – 49.8	1240 – 5830

<sup>1)</sup> heat output at LPHW 75/65 °C, room temperature 20 °C

## At a glance



- 1 Fan guard (standard)
- 2 Whisper-quiet sickle-blade fan
- 3 Rear wall with inlet nozzle
- 4 Heat exchanger
- 5 Unit heater housing
- 6 Louvre, one-row (standard)

# Site heaters

Mobile applications.  
To heat building shells  
or dry out buildings.

Heating:  
LPHW

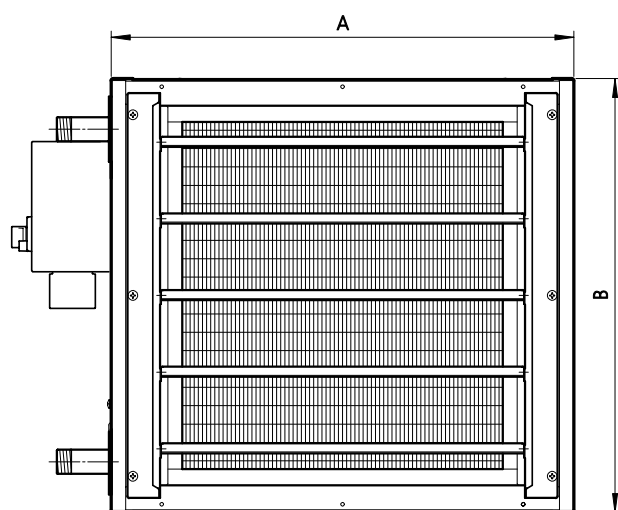
factory-wired with plug, immediately ready to use,  
continuously variable control



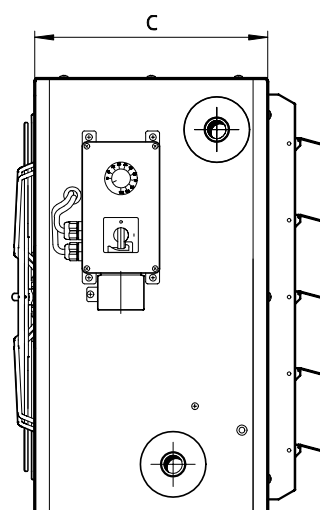
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Unit heaters



Front view



Side view





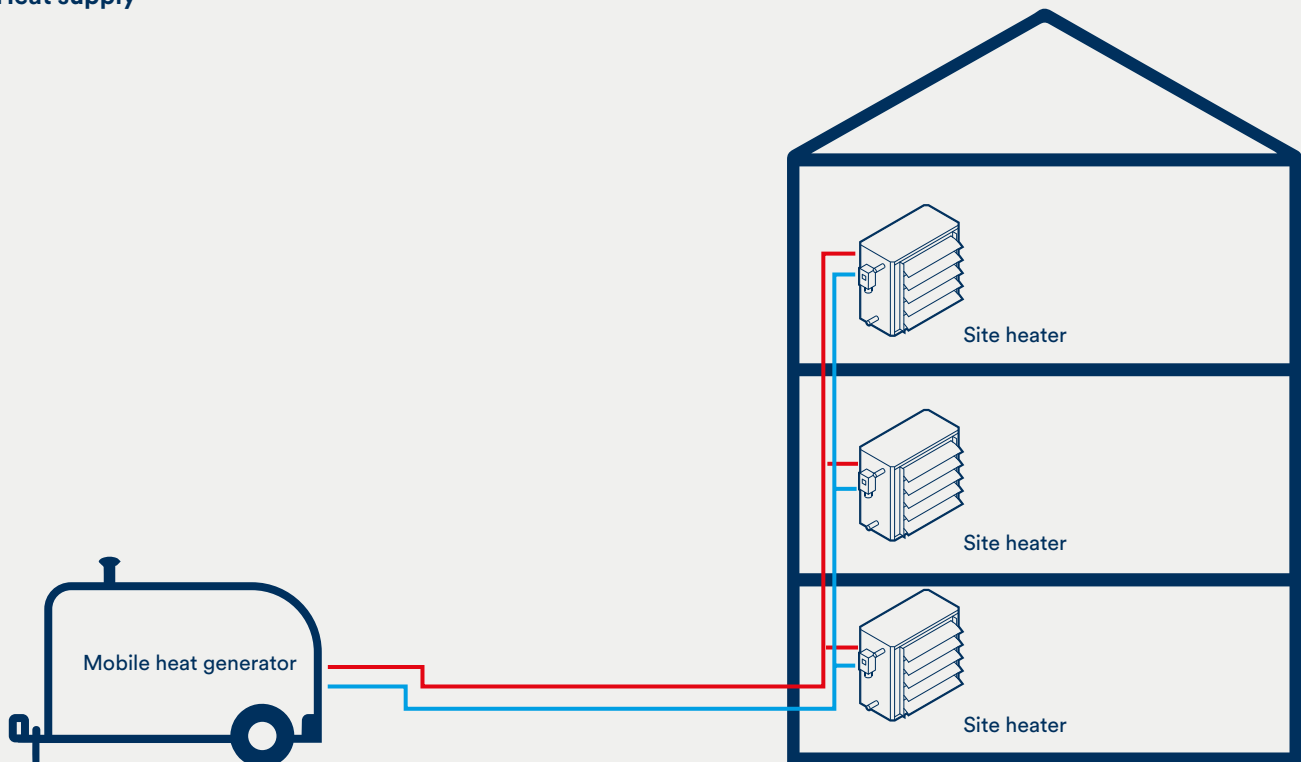
## Technical data

Copper-aluminium heat exchanger

Type	Size	Height	Width	Depth	Heat output <sup>1)</sup>	Air volume flow
		B	A	C		
		[mm]	[mm]	[mm]	[kW]	[m <sup>3</sup> /h]
EC fan	4	500	540	320	5.1 – 18.1	370 – 2640
	5	600	640	320	10.0 – 38.9	890 – 4940
	6	700	740	320	12.8 – 49.8	1240 – 5830

<sup>1)</sup> heat output at LPHW 75/65 °C, room temperature 20 °C

## Heat supply



If no fixed heat generator is available, the site heaters are primarily supplied with lower pressure hot water from mobile heat generators. If need be, they can be set up on trailers or in heating containers, outside the buildings, by specialist hire companies. These mobile heat generators are usually fully equipped with all safety-related equipment as well as a fuel tank and, depending on the model, can be operated with heating oil, natural gas or liquid gas. Hose lines transport the hot water to the site heaters set up in the respective rooms of the building, and transmit the heat to the room air.

# Ultra

Ceiling-mounted unit  
for high-end large spaces  
for heating, cooling and  
ventilation.

Heating:  
LPHW

Cooling:  
CHW

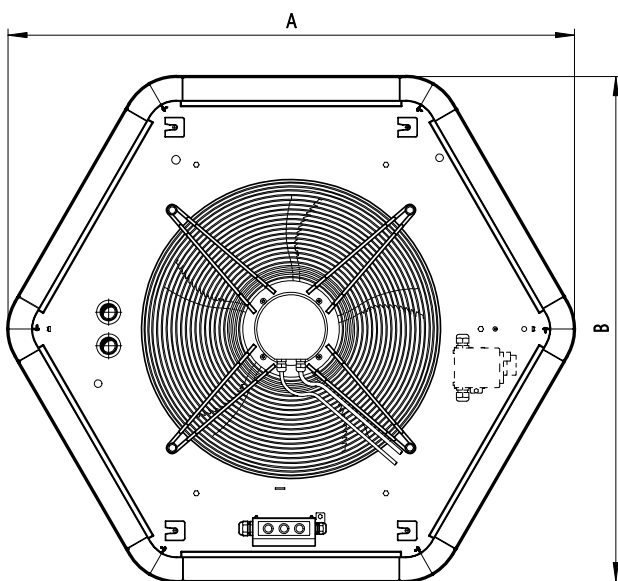
Supply air in conjunction with centralised ventilation system

Whisper-quiet:  
thanks to EC technology and whisper-quiet sickle-blade fans

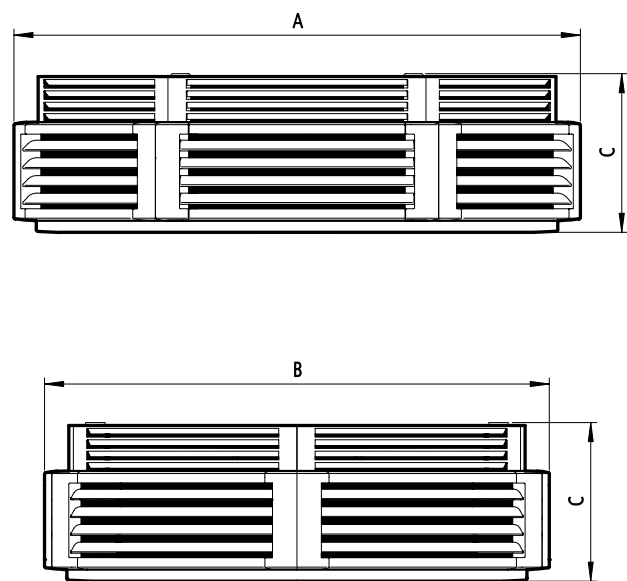


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Unit heaters

Top view



Side view



## Technical data

Copper-aluminium heat exchanger

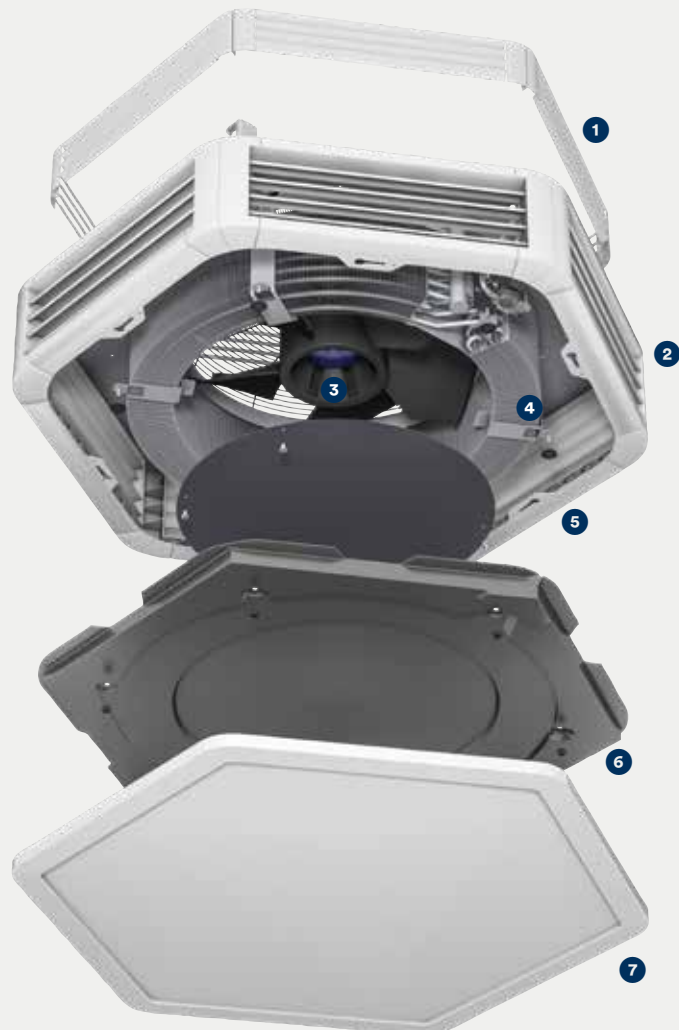
Type	Size	Height	Width	Depth	Heat output <sup>1)</sup>	Cooling output <sup>2)</sup>	Cooling output <sup>3)</sup>	Air volume flow
		B	A	C				
		[mm]	[mm]	[mm]	[kW]	[kW]	[kW]	[m <sup>3</sup> /h]
EC fan, 230 V, high speed	73	330	840	750	6.5 – 15.9	–	–	590 – 1500
	84		1004	900	6.0 – 20.5	3.0 – 7.5	1.4 – 3.7	500 – 1860
	85		1004	900	7.4 – 33.2	3.7 – 12.0	1.7 – 5.7	520 – 2970
	96		1177	1050	10.2 – 53.6	5.1 – 12.3	2.2 – 8.7	680 – 5620
EC fan, 230 V, low speed	96	330	1177	1050	8.2 – 40.1	4.2 – 14.0	1.6 – 6.7	440 – 3930

<sup>1)</sup> heat output at LPHW 75/65 °C, room temperature 20 °C

<sup>2)</sup> cooling output at CHW 7/12 °C, room temperature 27 °C, 48 % rel. humidity

<sup>3)</sup> cooling output at CHW 16/18 °C, room temperature 27 °C, 48 % rel. humidity

## At a glance



- ❶ 6-section intake crown
- ❷ Self-supporting plastic housing
- ❸ Whisper-quiet sickle-blade EC fan
- ❹ Heat exchanger
- ❺ Air baffle
- ❻ Plastic condensate tray
- ❼ Base panel

# Resistent

Wall- and ceiling-mounted unit heaters,  
**corrosion-proof for extreme applications.**

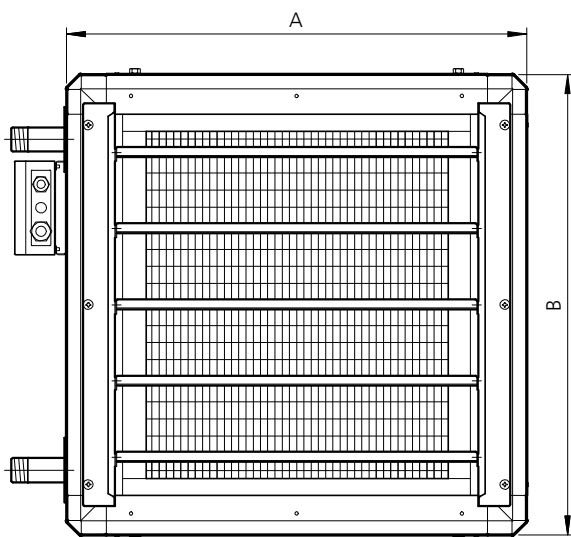
Heating:  
LPHW

Whisper-quiet:  
thanks to EC technology and whisper-quiet sickle-blade fans

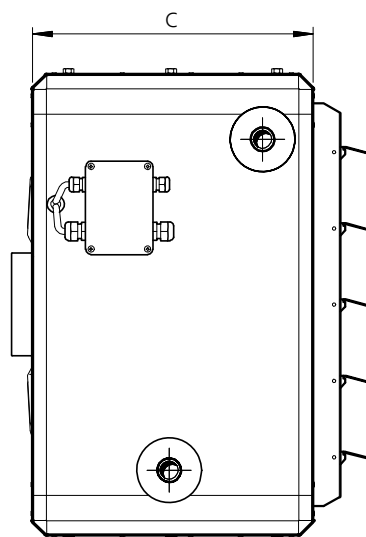


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Unit heaters

Front view



Side view



## Technical data

Hot-dip galvanised/V4A stainless steel heat exchanger

Type	Size	Height	Width		Depth	Heat output <sup>1)</sup>		Air volume flow	
			B	A		Hot-dip galvanised steel		Stainless steel V4A	
			[mm]	[mm]		[mm]	[kW]	[m <sup>3</sup> /h]	[kW]
EC fan, 230 V, low speed	4	320	540	540	6.0 – 18.1	550 – 2770	5.6 – 12.3	520 – 1650	
	5		640	640	7.4 – 34.0	640 – 4800	8.2 – 23.9	490 – 3060	
	6		740	740	9.5 – 44.0	790 – 5860	11.5 – 28.3	580 – 3320	
AC fan, 400 V, Ex e-protected	4	320	540	540	11.5 – 15.7	1480 – 2360	8.3 – 10.6	950 – 1340	
	5		640	640	20.6 – 30.6	2700 – 4140	16.2 – 20.2	1750 – 2410	
	6		740	740	30.5 – 42.7	3720 – 5680	23.0 – 28.8	2380 – 3380	

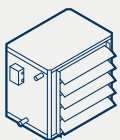
<sup>1)</sup> heat output at LPHW 75/65 °C, room temperature 20 °C

<sup>2)</sup> heat output at LPHW 80/40 °C, room temperature 20 °C

<sup>3)</sup> heat output at 0.1 bar saturated steam, room temperature 20 °C

## Applications

Corrosion-proof Resistent unit heaters are utilised in extreme applications where aggressive air or heating media prohibit the use of unit heaters manufactured with conventional material.



Unit heater  
Resistent

Dairies

Food industry

Meat wholesalers

Chemical industry

Abattoirs



# Reliably into the future with the best

Combining low water temperature unit heaters with heat pumps offers the option of totally foregoing the use of gas – a combination of the above to partially reduce gas consumption is also feasible.

## Sustainable and energy-efficient

A large proportion of fossil fuel-based energy can be saved by the use of heat pumps. Heat pumps supply the unit heaters with low-temperature low-pressure hot water. Compared to gas-fired systems, this combination saves energy costs and lowers CO<sub>2</sub> emissions.



# Perfectly coordinated air conditioning in just three steps

## 1. Correct design of system temperatures and penetration depths

The correct supply and return temperature are crucial. Often, they are unnecessarily selected too high. If the unit heaters are operated with low supply and return temperatures, these low supply temperatures also help to significantly reduce costs and emissions.

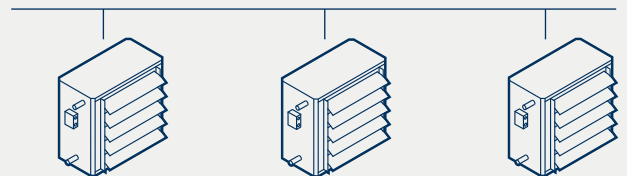
Also pay attention to the adequate penetration depth of the unit heaters, as otherwise the warmth will not reach the area it is intended to heat. Reasons can include the fan output being too low, or the thermal up-currents from machinery being too great.

**Useful tip:** Design your project with a sufficient unit heater output in advance. The penetration depth can be improved by fitting louvre fins.

## 2. Consider 1.8 times the air circulation rate

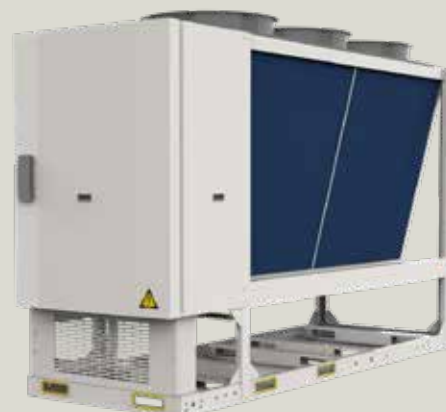
A factor of 1.8 provides air circulation that effectively reduces the physically induced accumulation of heat under the ceiling of the hall or shed. The warm air under the roof is then transported to the occupied zone where people are sitting or working. This is where unit heaters come into their own over surface heating systems, like radiant panels, which have no option of recirculating the warm air.

**Useful tip:** We recommend designing with several smaller units, as the temperature is distributed more favourably here, the air speeds are slower, and lower noise can be expected.



## 3. Supplement with low water temperature systems

The use of heat pumps or other low water temperature systems can help to reduce gas consumption. The large-size heat exchanger integrated in heat pumps achieves optimum energy efficiency. You are also future-proofing yourself by the heat exchanger being filled with a minimal volume of the “low GWP” refrigerant R32. The refrigerant is contained within the unit and is not circulated around the building.





# Modern air conditioning in industrial sheds and buildings

The sensible combination of these units in an industrial shed or building and, above all, intelligent control, such as the KaControl, ensures that the benefits of modern developments can be ideally used and combined.

Unit heaters with EC technology feature continuously variable control with an optimum motor operating point across the entire fan speed range of the unit heaters. These energy-efficient EC motors ensure that you are ErP-compliant and will thus also comply in future with the requirements of the European Union's Ecodesign Directive for Energy-related Products (ErP). Outdated AC technology can no longer keep pace.

The KaControl system then operates the unit within precisely the load range actually required, avoiding unnecessary energy consumption and saving operating costs in the long term.

**Useful tip:**

Additional useful components, such as door air curtains, also provide for powerful screening of cold air, particularly at the wide doorways of industrial buildings.



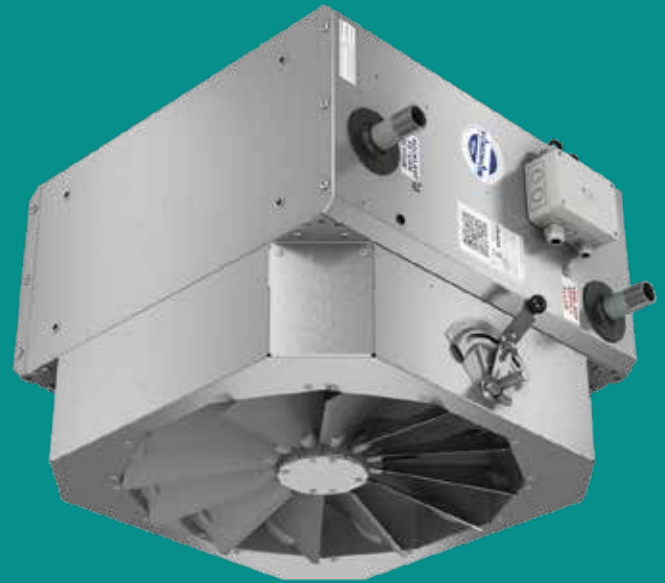


# KaMAX

for TOP ceiling-mounted units

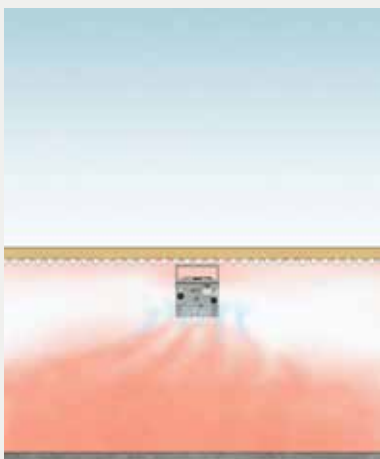
Unit heaters are very well suited for countering a phenomenon that occurs frequently in industrial sheds: accumulated heat under the ceiling. Kampmann uses its KaMAX diffuser (Kampmann Multi-Air-Mix), to reduce accumulated heat, especially in high industrial halls and sheds, and thus prevent energy losses.

The fins in the KaMAX are arranged in a circle. A control lever is used to adjust the fins to the required angle externally. Alternatively, the KaMAX diffuser can also be controlled remotely by a servomotor combined with a switch.

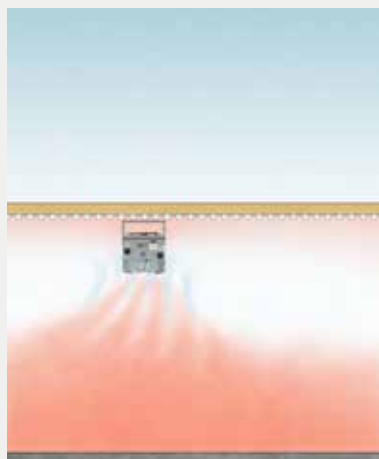


## KaMAX air outlet

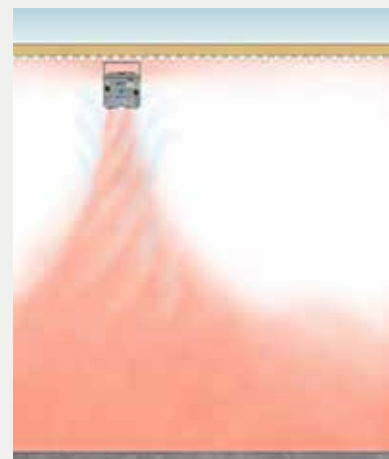
The swirl of the discharged air, that is its rotation, can be changed so that both horizontal and vertical air streams with variable induction properties and penetration depths can be generated. This prevents high temperature differences between the floor and ceiling. Heat that accumulates under the ceiling is drawn in and entrained in the air circulation. The precise setting of the KaMAX ensures that even large volumes of pleasantly heated air reach the occupied zone draught-free.



Hall height of 3 to 5 m  
fins are horizontal



Hall height of 5 to 10 m  
fins are slightly vertical/centrally positioned



Industrial shed height of up to 20 m  
fins are at their most vertical

KaMAX ensures the systematic mixing of indoor air, bridges thermal lift and thus prevents the formation of unwanted accumulated heat underneath the ceiling:

- > transmission heat losses are minimised
- > energy costs are reduced
- > comfort is enhanced in the occupied zone

# Heat exchanger

**Copper-aluminium**

**Galvanised steel**



**Hot-dip galvanised steel**

**Galvanised steel, cross-counterflow**

**Stainless steel V4A**

**Heat exchanger for steam**

**Heat exchanger for refrigerant**



**Heat exchanger for CO<sub>2</sub>**

## Brackets



Universal 2-point brackets



Universal 4-point brackets



Universal 2-point T-bar brackets



Wall brackets



Ceiling-wall brackets



# Our controllers for unit heaters

## Electromechanical room control units

**Room thermostat,  
type 30155**



Operation and temperature control of secondary air units for heating and cooling in a 2-pipe or 4-pipe system.

- > operated by turning knob
- > temperature control by fan and valve control
- > 3-stage manual fan control or continuously variable automatic control

**Clock thermostat,  
type 30256**



Operation and temperature control of secondary air units for heating and cooling in a 2-pipe or 4-pipe system.

- > operation using function keys
- > temperature control by fan and valve control
- > 10-stage manual fan control or continuously variable automatic control

**Electronic speed  
controller, type 30515**



Operation and temperature control of up to 10 secondary air units for heating and cooling in a 2-pipe system or for pure air recirculation.

- > operated by turning knobs
- > temperature control by fan and valve control
- > 10-stage manual fan control or continuously variable automatic control
- > day and night temperature setpoint
- > digital timer with day, night and week program
- > mean value formed by 2 or 4 room sensors
- > frost protection function
- > external activation
- > potential-free operating and fault alert



# KaControl - Smart room control

## KaController



Operation and temperature control of up to 6 secondary air units for heating and cooling in a 2-pipe or 4-pipe system.

- > operation by multifunctional display
- > optional plug-in interface cards offer the option of connecting to higher-level control systems
- > integral temperature sensor
- > individually adjustable basic display
- > built-in weekly switching program
- > optionally available as an industrial version with IP class 65

## Stand-alone or part of the BMS



Our KaControl range is the gateway to all intelligent control logic for our products. We provide systems as a stand-alone complete solution for the operation and monitoring of heating, cooling and ventilation functions. However, often air conditioning systems need to be integrated into building automation systems (BA). KaControl also offers the appropriate interfaces, computing units and user interfaces for this. Thus, KaControl ranges from the smart room control unit to an individual user interface within the building automation network.

Hybrid systems

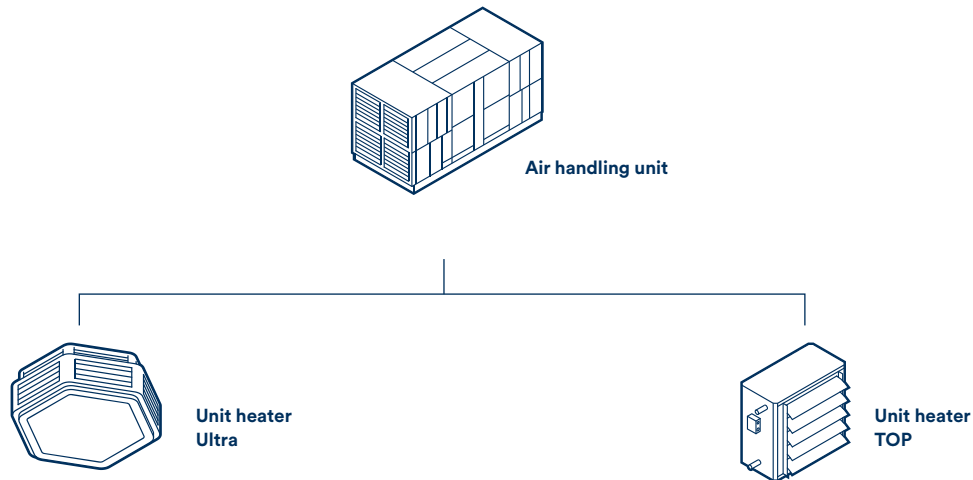
# Real team players

Industrial premises, workshops and retail stores are now not only heated and air conditioned by unit heaters, but also supplied with outside air.

The focus of the hybrid system is on convenient, individual air conditioning with demand-led ventilation with the smallest possible unit dimensions.



# Real team players



Hybrid ventilation systems are bidirectional ventilation systems with efficient heat recovery. Temperature control is provided by local units inside the room and not by the central ventilation unit (air handling unit). Primary air is only fed in if required. A CO<sub>2</sub> sensor monitors this specific requirement. Otherwise, the decentralised units are operated with secondary air. Hybrid ventilation systems make sense, as using water as a carrier medium is more efficient than air.

Our unit heaters are ideal for this in conjunction with our Kompakt ventilation unit or individually configured air handling units.

## Benefits and strengths

- > smaller air ducts
- > long filter service lives
- > efficient temperature control by decentralised units
- > less space needed for the ventilation unit
- > significantly lower energy consumption for heating
- > autonomous temperature control in different rooms

Hybrid systems are naturally designed to be individually project-based and ideally coordinated to each other.



Spearheading future-proof technology

# Systematically EC

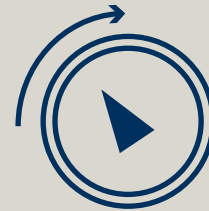
Kampmann has completely modernised its unit heaters. As one of the market leaders in this segment, we are responsibly taking a courageous step forwards and will be relying systematically on EC technology to power and control our units. AC motors are now a thing of the past.

## No wasted power



The electronics combined with the control software operates the fan in our unit heaters with optimum energy consumption at each operating point. This achieves up to 70% savings compared to AC technology, particularly in the partial load range. This can be seen by the operating costs in the first year of operation alone.

## Continuously variable control



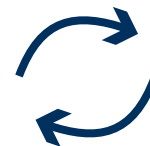
The complete product range has been converted to EC motors. Every unit thus now features continuously variable control. The start/stop control of AC motors is a thing of the past. Input the parameters for an optimum climate, and the control does the rest.

## Minimal noise levels



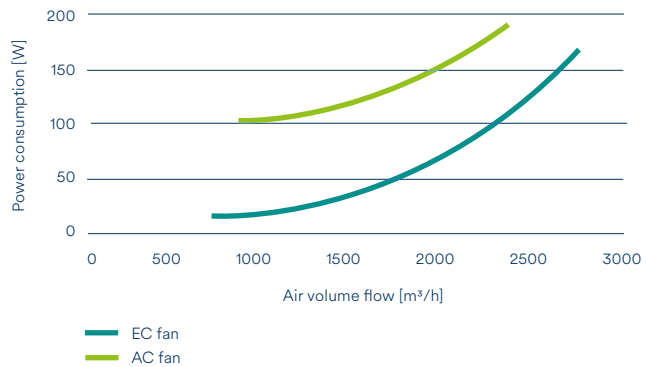
We only notice how much a high noise level affects us when it is abruptly interrupted. Our continuously variably controlled unit heaters generate less stress, as they only operate within the power range actually required. Generating only the noise emissions that are absolutely necessary. At the same time using whisper-quiet sickle-blade fans.

## ErP-compliant future



The requirements governing energy-related products (ErP) will be further tightened in 2022 within the context of the European Union's Ecodesign Directive. It will be difficult for units with AC motors to comply with these requirements. By contrast, you can relax in the knowledge that Kampmann EC unit heaters fully comply. They will also continue to conform to the ErP Directive in future, offering decision-makers planning certainty.

# Comparison of EC and AC technology



## Comfortable industrial shed climate

Comfort plays a key role in building air conditioning – in commercial and industrial buildings too. There are various factors influencing a comfortable climate in the occupied zone and workplaces of an industrial shed or hall:

- > room air temperature
- > air movements and draughts in the space
- > temperature stratification in the space

Alongside these factors, the acoustics in the space is a further criterion that affects comfort. The EC technology used in Kampmann unit heaters promises lower noise emissions, as the whisper-quiet, sickle-blade fans fitted run evenly quietly, even at high output.

### ... It's good to know:

Tests conducted in the Kampmann Research & Development Centre reveal that multiple smaller sizes emit even lower sound emissions.

When combined with the Kampmann KaMAX air outlet, our unit heaters supply draught-free air movement and a pleasant room temperature within the occupied zone in compliance with the standards. And they do so in the most diverse external conditions with a leaving air temperature below body temperature, as has often been the accepted norm in office air conditioning.



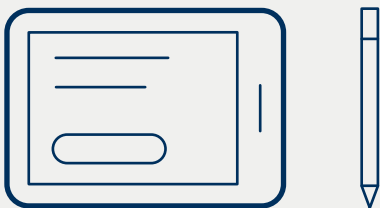
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Service

# We are always there to help!

Wherever you are. We have a wide range of tools to support you in your design: smart apps and calculation programs, BIM data and CAD drawings.

## Design



We would be pleased to produce project-specific design drawings and wiring diagrams, as well as different control options, for your project to make your design easier.

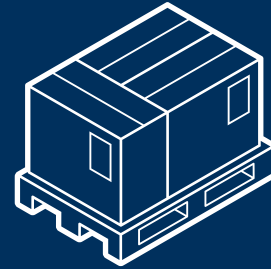
## BIM data sets



Use the Kampmann BIM data sets for seamless planning processes. They include all unit dimensions, technical water and electrical connection dimensions and performance data.



## Delivery



Kampmann products are delivered sorted on pallets to site. The delivery can be clearly assigned to the respective floors and installation position, thanks to clear position information on the packaging.

## Consultation

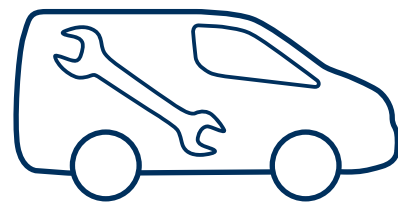


Apart from comprehensive advice on site and design of the building services systems, we can also provide the precise documentation you require for every project.

[kampmanngroup.com/service](https://kampmanngroup.com/service)



## Customer service



Rely on the organisation and deployment of our global Customer Service team. Our Kampmann service specialists will provide support at 3 sites and over 130 trained contract engineers at 80 national and international sites.



## OBI Market, Hamburg-Bergedorf



OBI has opened yet another "green branch" with this new building in Hamburg-Bergedorf: the DIY store has been awarded the GreenBuilding certificate as part of the European Commission's climate protection program to improve the energy efficiency of buildings and the use of renewable energy. As the first German manufacturer to be awarded the title "Endorser in GreenBuilding", Kampmann offers a sophisticated range of products that support the low use of primary energy. Energy-efficient benefits come from the combination of centralised and decentralised air conditioning and CO<sub>2</sub>-led control of ventilation.





SALE 10%

Pflanzen  
Pflege T





The Ziesak Hagebau market is conveniently located between Bochum and Dortmund. With a floor area of some 20,000 square metres, it is one of the largest DIY centres in the Ruhr region. The Hybrid ECO system was installed here. This is a bi-directional ventilation system, in which temperature control does occur in the central unit but via the decentralised units in the interior of the room. In Bochum, this is provided by a combination of KaCompact ventilation units and TOP unit heaters. All air conditioning units are centrally controlled by Kampmann's building management system, KaControl. KNX allows the system to be controlled zonally – enabling optimum energy-saving operation and pioneering air conditioning technology.

## Ziesak Hagebau, Bochum

