



► **Katherm HK**  
Trench convectors

# Katherm HK


Heating or cooling with energy-efficient EC tangential fan

► **Technical Catalogue**



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The image shows a modern interior space with a curved wall and large windows. A prominent white cylindrical pillar stands in the foreground. The floor is made of light-colored wood. The ceiling is white with recessed circular lights. The windows offer a view of a multi-story building with a grid-like facade and a small tree in the courtyard below. A dark blue text box is overlaid on the left side of the image.

Katherm HK: on-demand heating and cooling from the floor, individually controlled.



A special design of Katherm HK trench convector with energy-efficient EC tangential fans ensures quiet operation and energy-savings in the new ADAC headquarters in Munich. This design of trench system produces on-demand filtered, heated or cooled recirculating air from the floor.

Katherm HK and Katherm HK empty trenches are individually adapted to the curved external facade in this building.

# 01 ▶ Product information

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## Katherm HK – decentralised indoor climate from the floor

In modern administrative buildings and other buildings with a high proportion of glazing, heating and cooling units in front of windows are often unacceptable for visual reasons. At the same time, users' needs for room air conditioning are increasing.

The demand-led supply of filtered, heated or cooled recirculation air with Katherm HK units solves both problems at the same time, practically and invisibly from the floor. A higher level of efficiency is achieved with energy efficient EC tangential fans with noise-optimised commutation electronics, resulting in energy savings of up to 60% compared with conventional fans! Flow-optimised barrel impellers ensure quiet operation and guarantee that air flows through the convector along its entire length.

### **Katherm HK E – with additional directly selectable electric heating function**

Electric heating is possible in addition to water-based heating and cooling with the 2-pipe Katherm HK E version with an integrated continuously variably controlled electric heating coil.

Compared to a purely water-based system, the user of the room has the option of individual heating independently of the available water temperature.

This saves energy and enables the user to flexibly create their ideal climate. Katherm HK E units offer a sustainable 4-pipe system solution at the cost of a 2-pipe system, delivering significant material cost savings.

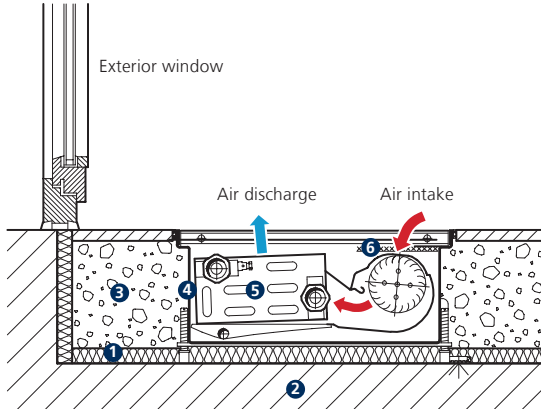
### **Katherm HK P – for additional primary air supply**

Katherm HK units with primary air supply are perfectly suited to supplying prepared primary air (fresh air) into a space, perfectly combining heating, cooling and a supply of fresh air. Primary air modules with DN 80 connectors are available. One or more primary air modules can be selected depending on the trench length. The primary air volumetric flow emerges through discharge slots in the trench at a low-turbulence leaving air velocity. The amount of air supplied can be adjusted as required using air sliders.

# Installation examples and arrangement of the air outlet

## Cooling installation example

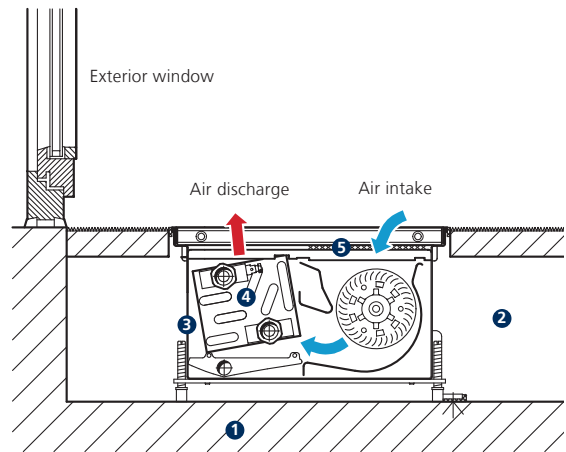
Installation in screed, Katherm HK 320, trench height 130 mm



- ① Heat and sound insulation
- ② Concrete slab
- ③ Screed
- ④ Floor trench
- ⑤ High-output convector
- ⑥ Filter (optional)

## Heating installation example

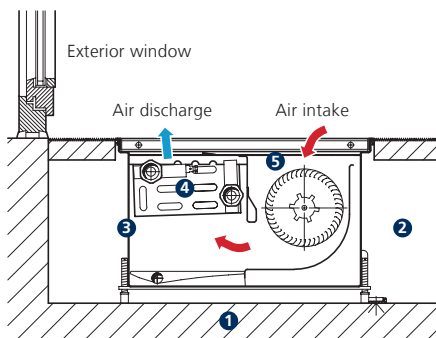
Installation in a raised floor, Katherm HK 290, trench height 160 mm



- ① Concrete slab
- ② Raised floor
- ③ Floor trench
- ④ High-output convector
- ⑤ Filter (optional)

## Cooling installation example

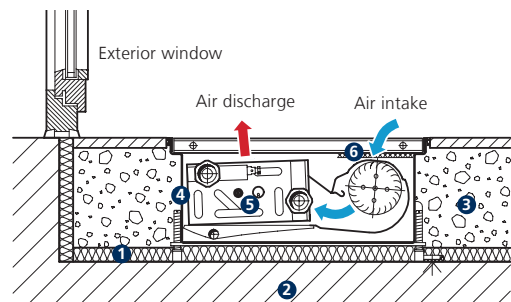
Installation in a raised floor, for example Katherm HK 360, trench height 210 mm



- ① Concrete slab
- ② Raised floor
- ③ Floor trench
- ④ High-output convector
- ⑤ Filter (optional)

## Heating installation example

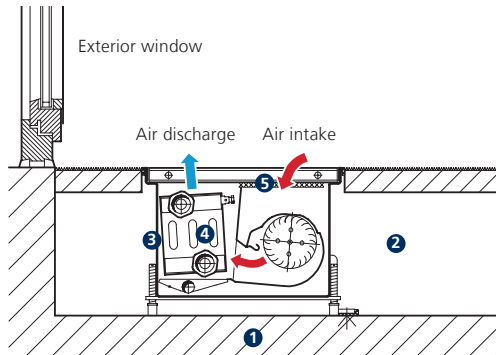
Installation in screed, Katherm HKE 320 E, trench height 130 mm



- ① Heat and sound insulation
- ② Concrete slab
- ③ Screed
- ④ Floor trench
- ⑤ High-output convector
- ⑥ Filter (optional)

### Cooling installation example

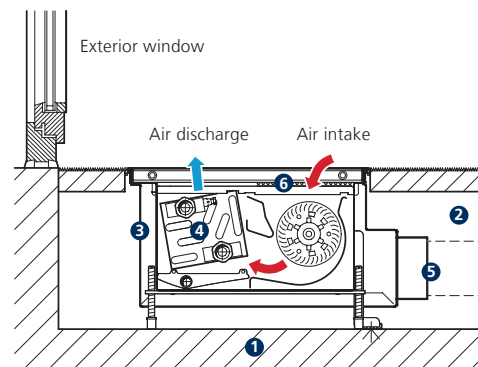
Installation in a raised floor, Katherm HK 245,  
trench height 160 mm



- ① Concrete slab
- ② Raised floor
- ③ Floor trench
- ④ High-output convector
- ⑤ Filter (optional)

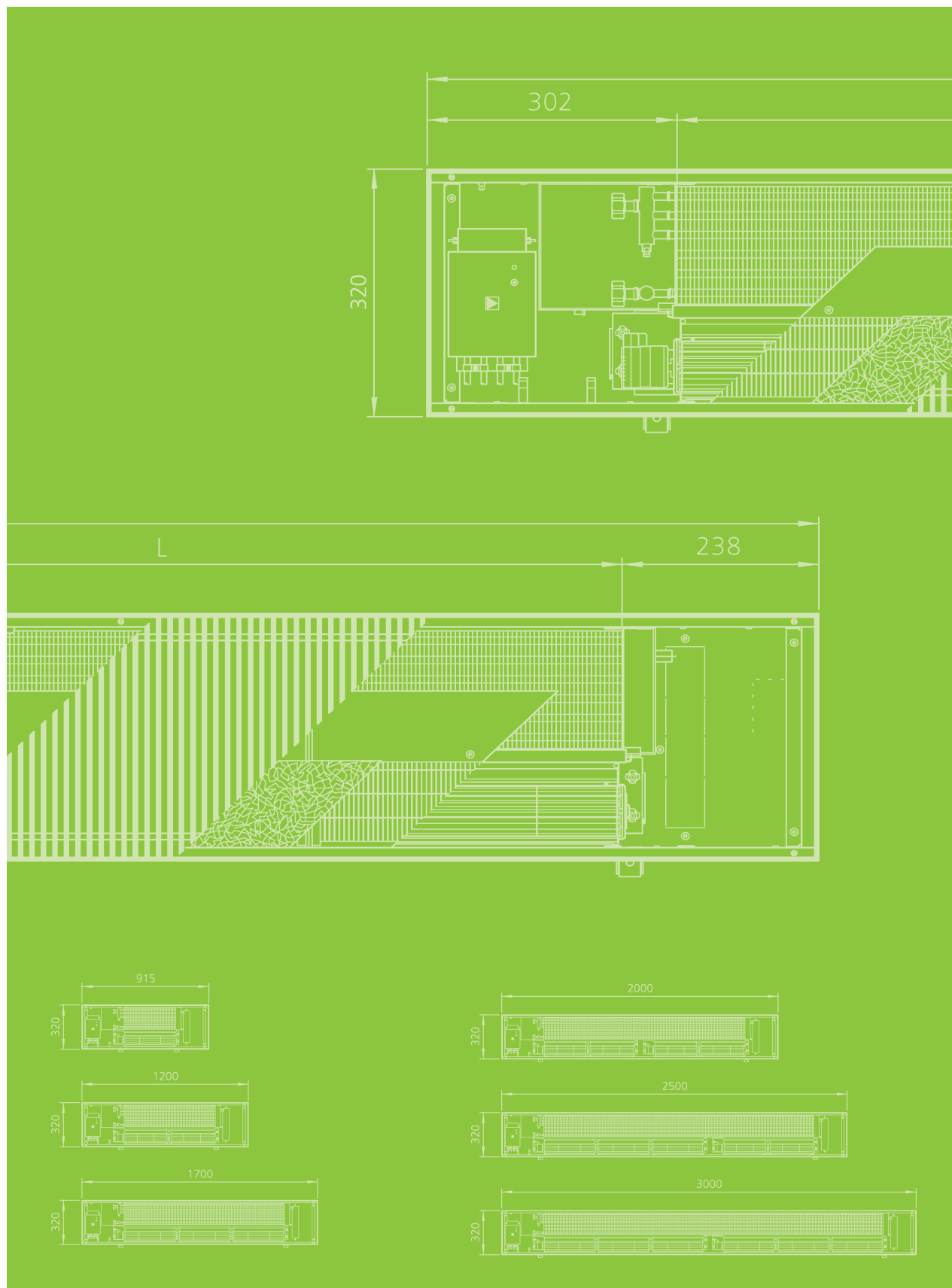
### Cooling installation example with primary air

Installation in a raised floor, Katherm HK 310 P,  
trench height 180 mm



- ① Concrete slab
- ② Raised floor
- ③ Floor trench
- ④ High-output convector
- ⑤ Primary air module with supply air spigot
- ⑥ Filter (optional)

## 02 ► Technical data



# Advice on measuring conditions

## Heat and cooling outputs

The heat and cooling outputs were measured in accordance with DIN EN 16430 "Fan-assisted heaters, convectors and trench convectors".

Part 1 "Technical specifications and requirements"

Part 2 "Test method and rating for thermal output"

Part 3 "Test method and rating for cooling output"

The standard regulates the performance measurements specifically of 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"

The specific requirements for cooling mode are taken into account in DIN EN 16430 Part 3. The reference air temperature is measured in the centre of the test chamber (2 metres from the external wall) at a height of 0.75 metres. This reference air temperature is not to be confused with the air inlet temperature. This may significantly differ due to the unavoidable short circuit between the air outlet and air intake.

The heat loads are introduced into the test chamber by 10 output-controlled dummies (see photo) in such a way that they do not affect the performance and functions, or only to a reproducible extent.

Katherm HK have been developed and built to be short circuit-optimised. The probability of a short circuit is minimised as far as is technically possible.

## Katherm HK E, safety functions and heat outputs

The safety functions and the heat outputs have been measured under consideration of the following standards:

- DIN EN 60335 Safety of electrical appliances for domestic use and similar purposes
- Part 1 (VDE 0700-1): General requirements
- Part 2-30 (VDE 0700-30): Particular requirements for room heaters
- Part 2-40 (VDE 0700-40): Particular requirements for electrical heat pumps, air conditioners and dehumidifiers

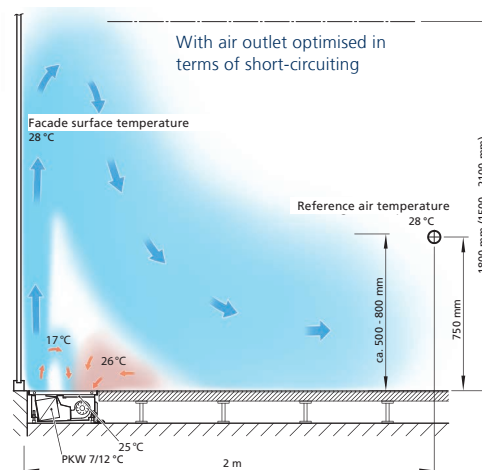
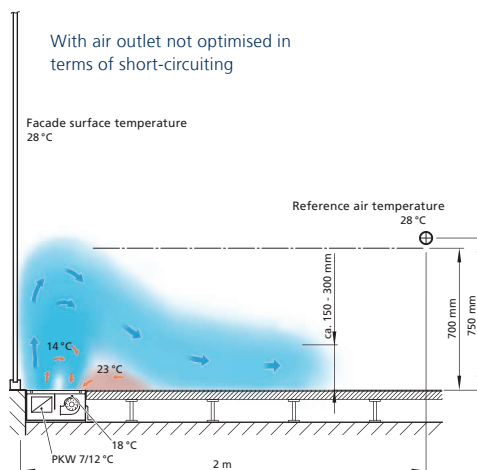
## Acoustics

Katherm HK are very often used in acoustically sensitive areas. Accordingly, Katherm HK have been optimised in terms of sound emissions. The sound power level is measured in accordance with DIN EN ISO 3744 (determination of the sound power and sound energy levels of sources of sound from sound pressure measurements – precision 2 class of enveloping measurement surface for an essentially free sound field over a reflective plane) in a semi-low reflective acoustic measuring chamber.

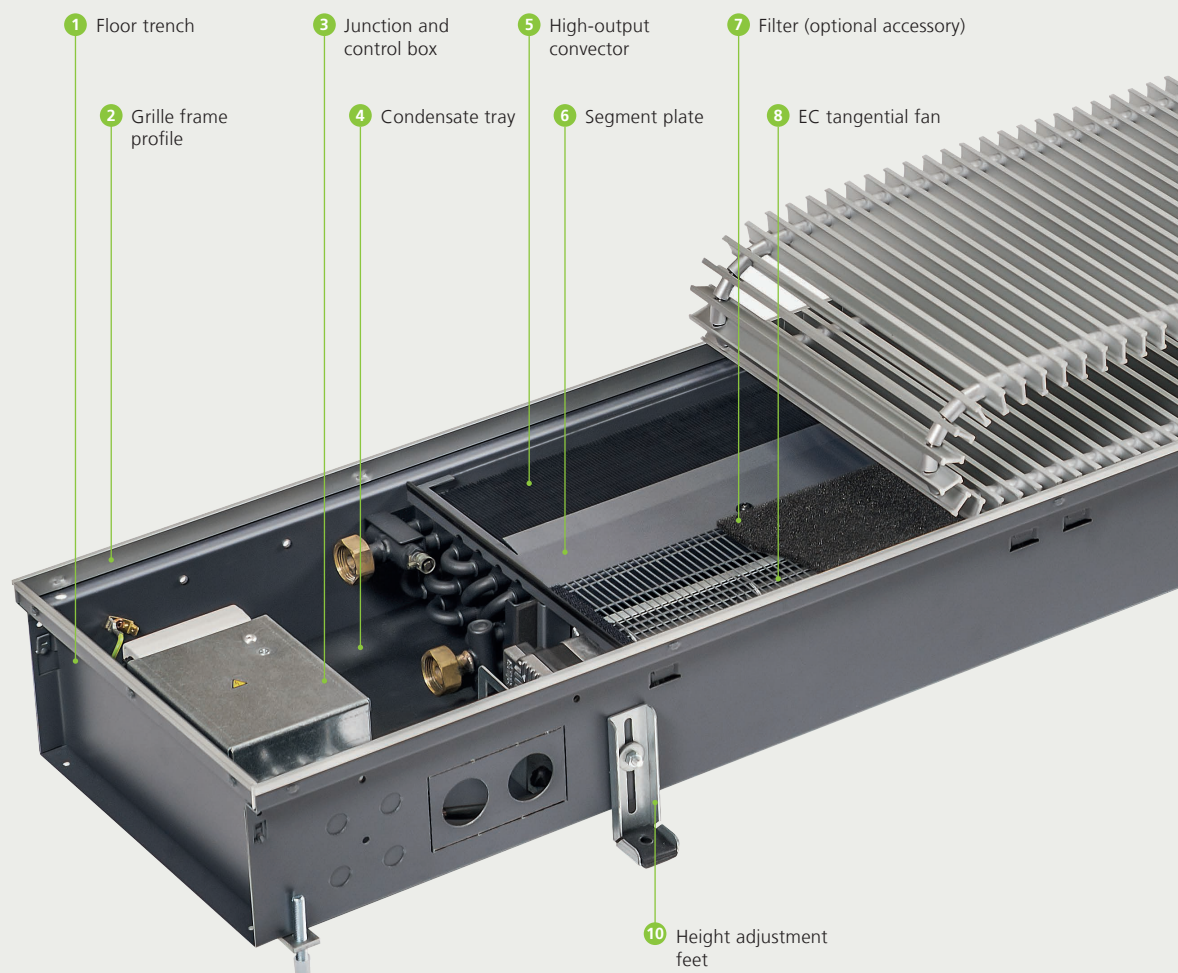


Heat and cooling output test chamber

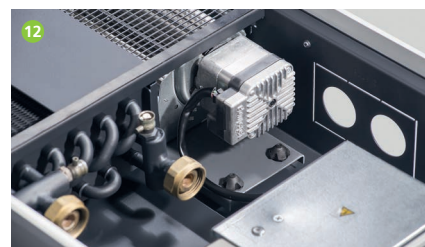
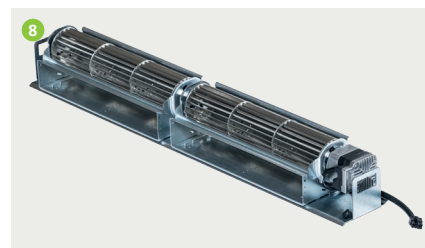
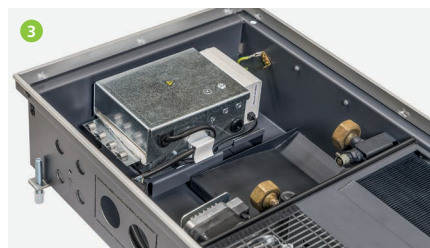
## Comparison of air flow profiles



## Katherm HK 245, HK 320, HK 360 at a glance



### Features



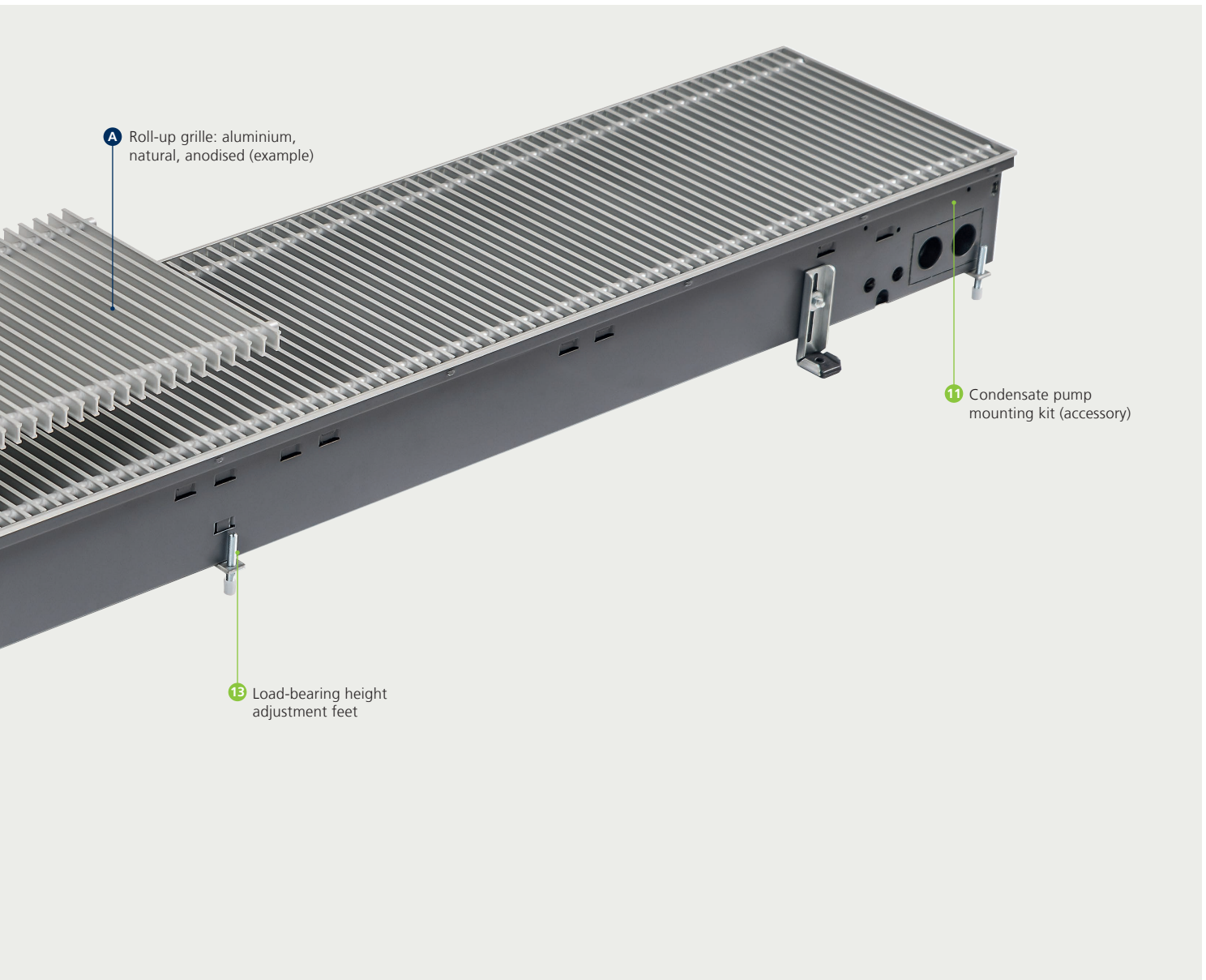


Fig. Katherm HK 320

- 1 Floor trench:**
  - ▶ made of sendzimir galvanised sheet steel
  - ▶ painted graphite-grey
  - ▶ with pre-punched connection openings for heat exchanger and electrical connection
- 2 Grille frame profile:**
  - ▶ to match the colour of the double T-profile grille
  - ▶ with protective lip on 3 sides
- 3 Junction and control box:**
  - ▶ for fast and safe electrical connection, saves installation time
  - ▶ KaControl or electromechanical control
- 4 Condensate tray:**
  - ▶ for safe condensate drainage and simultaneous air guidance
  - ▶ specifically designed for ease of cleaning in line with the Hygiene Directive VDI 6022
- 5 High-output convector:**
  - ▶ can be removed to the room side for ease of cleaning
  - ▶ made of copper pipes with aluminium fins
  - ▶ painted graphite-grey
  - ▶ suitable for max. continuous operating pressure of 10 bar and 120 °C
  - ▶ Eurokonus connection
  - ▶ for 2-pipe and 4-pipe systems
- 6 Segment plate:**
  - ▶ acts as a finger guard for the tangential fan, filter mounting frame, air guide plate, grille seat and reinforcing braces to strengthen the trench
- 7 Filter:**
  - ▶ optional accessory
- 8 EC tangential fan:**
  - ▶ energy-saving, with flow-optimised impellers, cascaded arrangement as a continuous fan strip (HK 320)
  - ▶ produces a uniform air flow through the convector
  - ▶ robust and quiet motor design
  - ▶ continuously variable fan speed control via an external 0-10 V signal
  - ▶ motor monitoring with internal fault processing
- 9 Cover plate:**
  - ▶ visual protection and protection from dirt
  - ▶ for connecting/return end and intermediate sections
- 10 Height adjustment feet:**
  - ▶ for the secure mounting of the trench
  - ▶ with sound insulation
  - ▶ fitted as standard
- 11 Condensate pump mounting kit:**
  - ▶ available as an accessory to drain condensate, if needed
  - ▶ supplied separately or factory-fitted
  - ▶ electrically wired on site
- 12 Attachment of tangential fan:**
  - ▶ ease of removal of the tangential fan without a tool
  - ▶ innovative combined coupling/ball joint system
  - ▶ simultaneous acoustic decoupling
- 13 Load-bearing height adjustment feet:**
  - ▶ for height adjustment and support of the trench
  - ▶ with soundproofing cap
- A Aluminium roll-up grille, natural, anodised (example):**
  - ▶ grille bar dimensions 18 x 5 mm
  - ▶ connections made of corrosion-proof steel springs with spacers in a matching colour
  - ▶ free cross-section approx. 70%

# Product data



## Product benefits

- ▶ Hygiene-certified in accordance with VDI 6022
- ▶ Heat outputs tested independently in accordance with DIN EN 16430
- ▶ EC fan - efficient in terms of noise and energy
- ▶ Low-cost effective heating and cooling with low noise levels
- ▶ Eurokonus valve connection for fast installation
- ▶ Optional electric heating function as a 2-pipe system in the HK E version
- ▶ Life Cycle Assessment data published in the form of an EPD according to EN 15804 and available to download from the International EPD System. Registered in the DGNB Navigator construction product platform.



## Features

- ▶ Energy-saving EC tangential fan with flow-optimised impellers
- ▶ Condensate tray can be removed to the room side for complete cleaning
- ▶ Sound-decoupled fixing of the tangential fan, easy removal without tools
- ▶ Connection and control box for fast electrical connection
- ▶ Condensate pump mounting kit, supplied separately or factory-fitted
- ▶ Roll-up and linear grilles with coordinated spacers

<b>Convection</b>	▶ EC tangential fan
<b>Heating</b>	▶ LPHW
<b>Cooling</b>	▶ CHW
<b>Ventilation</b>	▶ Optionally by supply-air modules or air supply ducts
<b>KaControl</b>	▶ Optional

## Performance data

**Heat output [W]<sup>1)</sup>** > 462 – 16884

**Cooling output [W]<sup>2)</sup>** > 62 – 3745

**Sound pressure level [dB(A)]<sup>3)</sup>** > 8 – 53

**Sound power level [dB(A)]** > 16 – 61

<sup>1)</sup> at LPHW 75/65 °C,  $t_{l1} = 20$  °C

<sup>2)</sup> at CHW 16/18,  $t_{l1} = 27$  °C, 48% relative humidity

<sup>3)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m<sup>3</sup> and a reverberation time of 0.5 s (in accordance with VDI 2081)

### Operating limits

- ▶ Max. operating pressure: 10 bar
- ▶ Max. entering water temperature: 95 °C
- ▶ Min. entering water temperature: 5 °C
- ▶ Max. air inlet temp.: 40 °C
- ▶ Max. glycol volume: 50 %

## Applications

Buildings of all kinds, in which there is a high cooling load due to internal loads and the effects of sunlight. Experience has shown that Katherm HK can provide low-cost, effective cooling with low, non-disruptive sound levels.



## Selection guide Katherm HK / HK E

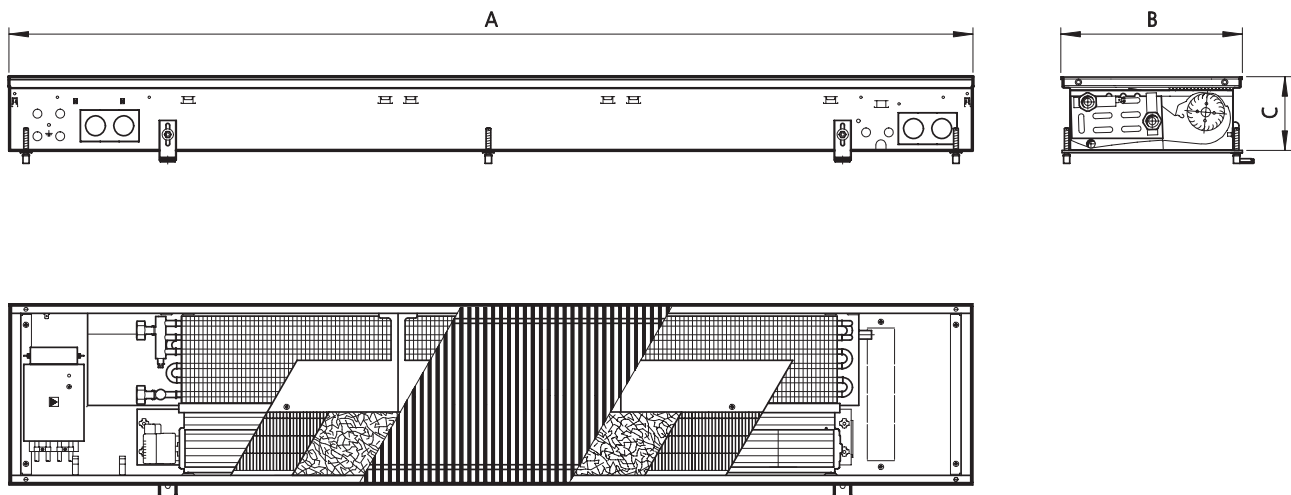
Length (A) [mm]	Width (B) [mm]	Height (C) [mm]	System						
			2-pipe		2-pipe electric heating element			4-pipe	
			heat output LPHW <sup>1)</sup> [W]	Cooling output <sup>2)</sup> [W]	electric heat output <sup>3)</sup> [W]	heat output LPHW <sup>1)</sup> [W]	Cooling output <sup>2)</sup> [W]	heat output LPHW <sup>1)</sup> [W]	Cooling output <sup>2)</sup> [W]
830 – 2990	290	160	892 – 20849	90 – 3745	200 – 1500	993 – 14599	108 – 2589	432 – 12513	88 – 3670
915 – 3000	320 245	130 160	697 – 10465 637 – 8710	125 – 1925 66 – 1507		649 – 9800 ---	121 – 1851 ---	436 – 6512 462 – 6316	121 – 1851 62 – 1420
950 – 2250	360	210	1224 – 16884	120 – 3348	---	---	---	643 – 12243	114 – 3153

<sup>1)</sup> at LPHW 75/65 °C,  $t_{l1}$  = 20 °C, with fan coils

<sup>2)</sup> with CHW 16/18 °C,  $t_{l1}$  = 27 °C, 48% rel. humidity, with fan coils

<sup>3)</sup> when operating with an electric heating element

### Technical drawing (Dimensions in mm)

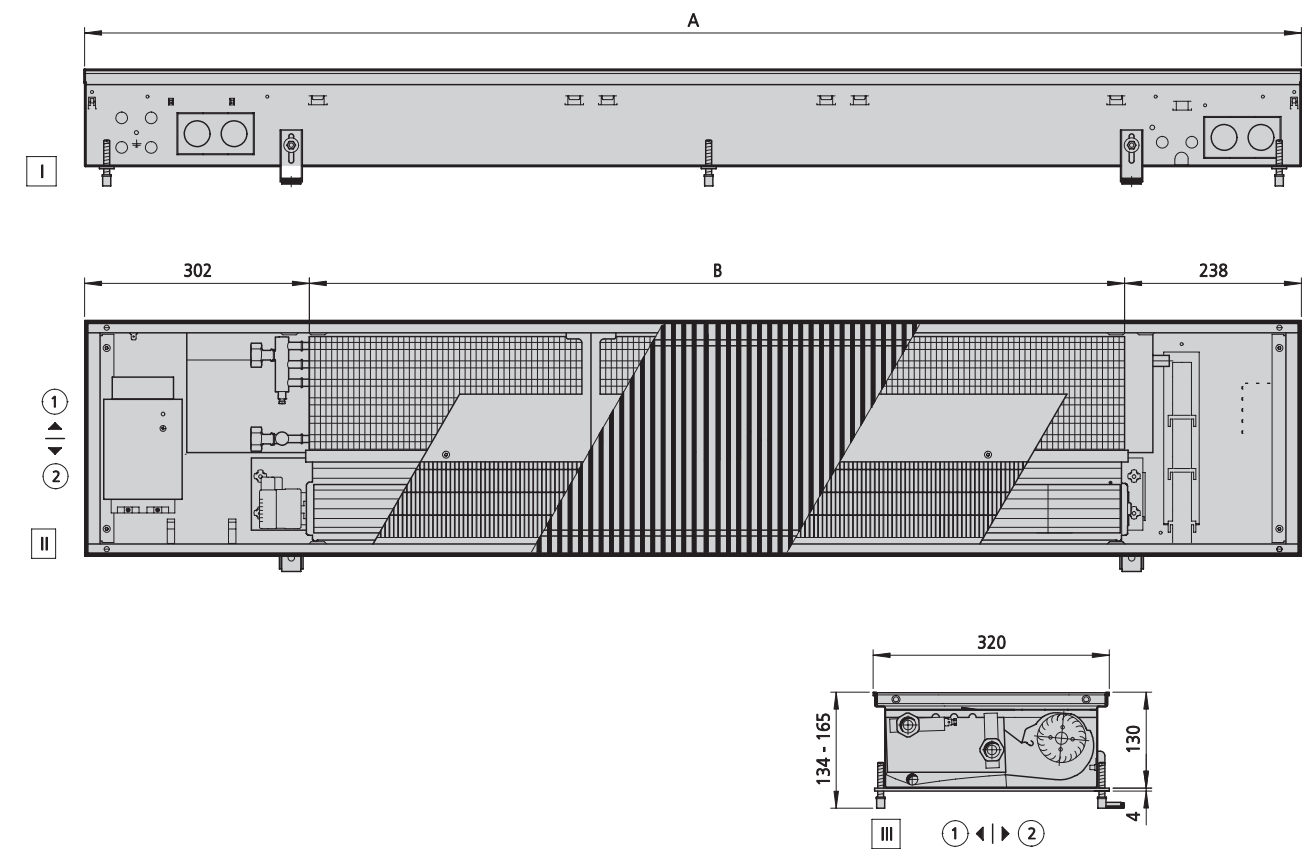


Katherm HK

2-pipe

Width 320 mm, Height 130 mm

Technical drawing (Dimensions in mm)



- View
- I Front view
  - II top view (without cover panel)
  - III cross-section
- Further information
- 1 window side
  - 2 room side

Specifications

Art. no. (**Control option)	Length (A) [mm]	finned length (B) [mm]	Weight [kg]
143322311113**	915	375	17
143322311119**	1200	660	23
143322311129**	1700	1160	33
143322311135**	2000	1460	39
143322311145**	2500	1960	49
143322311155**	3000	2460	60

## Performance data

Length <sup>1)</sup>	Control voltage	Heat output <sup>2)</sup>	Outlet air temperature	Cooling output, total <sup>3)</sup>	Cooling output, sensible	Outlet air temperature	Cooling output, total <sup>4)</sup>	Cooling output, sensible	Outlet air temperature	Power consumption <sup>5)</sup>	Current consumption	SFP value	Air flow <sup>6)</sup>	Sound pressure level <sup>7)</sup>	Sound power level
[mm]	[V]	[W]	[°C]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[mA]	[Ws/m³]	[m³/h]	[dB(A)]	[dB(A)]
915	10	1764	41.3	384	384	19.5	870	712	11.6	7.1	82	129	199	33	41
	8	1604	41.9	349	349	19.1	792	644	10.5	6.4	68	130	176	30	38
	6	1331	43.6	285	285	18.0	643	518	8.2	5.7	58	152	135	24	32
	4	1062	46.8	212	212	16.2	470	375	7.1	5.1	52	194	95	15	23
	2	697	50.6	125	125	16.1	262	206	7.1	4.6	49	305	55	8	16
1200	10	2908	45.4	571	571	19.3	1261	1032	11.9	11.9	117	157	274	35	43
	8	2630	46.0	513	513	19.0	1147	933	11.0	8.7	88	129	242	33	41
	6	2149	47.6	413	413	18.1	939	756	8.7	6.4	67	124	186	26	34
	4	1665	50.5	310	310	16.5	702	559	7.1	5.2	55	144	131	17	25
	2	1025	52.6	190	190	16.1	408	321	7.1	5.0	52	242	75	10	18
1700	10	5232	50.5	964	964	18.8	1941	1589	12.6	18.7	172	164	411	38	46
	8	4729	51.2	845	845	18.7	1708	1390	12.5	13.2	130	131	363	35	43
	6	3853	53.0	637	637	18.5	1294	1042	12.1	9.1	96	117	280	28	36
	4	2953	56.0	430	430	18.3	872	694	11.7	6.5	70	119	196	20	28
	2	1696	56.0	223	223	18.3	440	347	11.9	5.3	53	169	113	13	21
2000	10	5814	50.5	1071	1071	18.9	2157	1766	12.9	22.7	235	179	457	38	46
	8	5255	51.2	939	939	18.8	1898	1544	12.8	17.0	176	152	404	36	44
	6	4281	53.0	708	708	18.7	1438	1158	12.5	13.0	135	151	311	29	37
	4	3281	56.0	478	478	18.5	969	772	12.2	10.7	111	176	218	20	28
	2	1884	56.0	247	247	18.5	489	385	12.4	10.0	104	287	125	13	21
2500	10	8139	50.5	1491	1491	19.2	2931	2399	14.1	29.8	290	168	639	39	47
	8	7357	51.2	1301	1301	19.2	2546	2071	14.2	21.6	218	138	565	37	45
	6	5993	53.0	963	963	19.3	1861	1498	14.5	15.6	163	129	435	30	38
	4	4592	56.0	620	620	19.7	1176	937	15.4	11.8	125	140	305	22	30
	2	2612	55.6	289	289	20.6	535	422	17.2	10.3	105	210	176	15	23
3000	10	10465	50.5	1925	1925	19.4	3835	3139	14.2	35.7	345	156	822	41	49
	8	9458	51.2	1685	1685	19.4	3348	2724	14.3	25.8	260	128	726	38	46
	6	7706	53.0	1260	1260	19.4	2473	1991	14.6	18.3	192	117	559	31	39
	4	5906	56.0	824	824	19.7	1576	1255	15.3	13.1	140	120	393	23	31
	2	3382	55.9	387	387	20.6	712	562	17.3	10.4	106	166	226	16	24

Use our calculation tools on our website to easily calculate heat outputs and other technical data with just a few clicks!

► <https://www.kampmanngroup.com/hvac/products/trench-technology/katherm-hk#Calculate-performance-data>

<sup>1)</sup> Versions with roll-up grille, Katherm HK with linear grille are available on request!

<sup>2)</sup> at LPHW 75/65 °C,  $t_{11} = 20$  °C

<sup>3)</sup> at CHW 16/18,  $t_{11} = 27$  °C, 48% relative humidity

<sup>4)</sup> at CHW 7/12 °C,  $t_{11} = 27$  °C, 48% relative humidity

<sup>5)</sup> Add an additional power consumption of 1 W per thermoelectric actuator.

<sup>6)</sup> Values rounded up within the measurement tolerances.

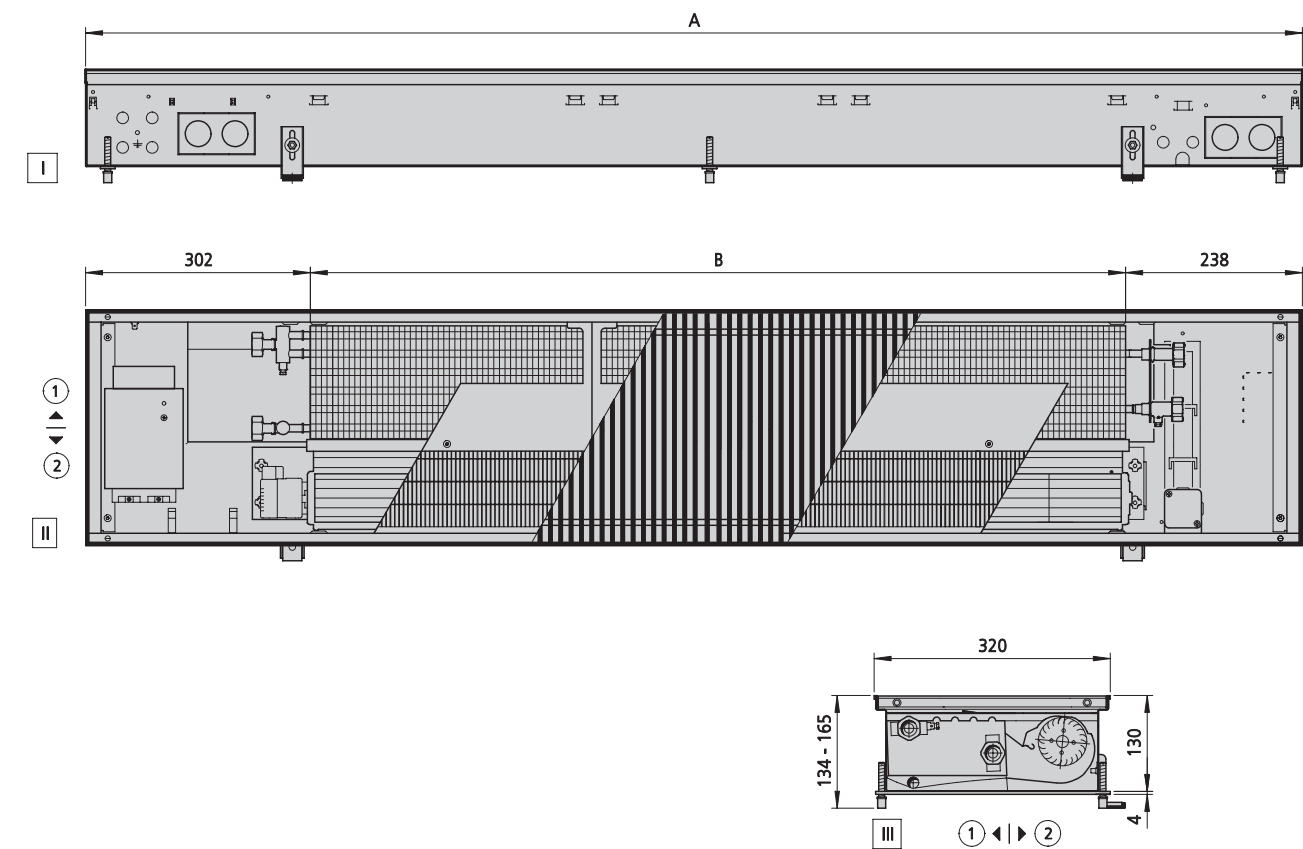
<sup>7)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081) Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

Katherm HK

4-pipe

Width 320 mm, Height 130 mm

Technical drawing (Dimensions in mm)



- View
- I Front view
  - II top view (without cover panel)
  - III cross-section
- Further information
- ① window side
  - ② room side

Specifications

Art. no. (**Control option)	Length (A) [mm]	finned length (B) [mm]	Weight [kg]
143324311113**	915	375	18
143324311119**	1200	660	23
143324311129**	1700	1160	33
143324311135**	2000	1460	40
143324311145**	2500	1960	50
143324311155**	3000	2460	60

**Performance data**

Length <sup>1)</sup>	Control voltage	Heat output <sup>2)</sup>	Outlet air temperature	Cooling output, total <sup>3)</sup>	Cooling output, sensible	Outlet air temperature	Cooling output, total <sup>4)</sup>	Cooling output, sensible	Outlet air temperature	Power consumption <sup>5)</sup>	Current consumption	SFP value	Air flow <sup>6)</sup>	Sound pressure level <sup>7)</sup>	Sound power level
[mm]	[V]	[W]	[°C]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[mA]	[Ws/m³]	[m³/h]	[dB(A)]	[dB(A)]
915	10	1085	33.1	373	373	19.8	845	692	12.1	7.1	82	129	199	33	41
	8	981	33.4	339	339	19.3	769	626	11.1	6.4	68	130	176	30	38
	6	799	34.2	277	277	18.3	624	502	8.9	5.7	58	152	135	24	32
	4	617	35.6	206	206	16.6	456	363	7.1	5.1	52	194	95	15	23
	2	436	39.1	121	121	16.1	253	199	7.1	4.6	49	305	55	8	16
1200	10	1809	35.8	553	553	19.6	1224	1002	12.4	11.9	117	157	274	35	43
	8	1635	36.2	497	497	19.3	1115	907	11.5	8.7	88	129	242	33	41
	6	1332	37.1	401	401	18.4	912	734	9.3	6.4	67	124	186	26	34
	4	1029	38.8	301	301	16.8	682	543	7.1	5.2	55	144	131	17	25
	2	726	43.1	184	184	16.1	394	311	7.1	5.0	52	242	75	10	18
1700	10	3256	39.0	927	927	19.1	1867	1528	13.3	18.7	172	164	411	38	46
	8	2943	39.4	812	812	19.0	1642	1336	13.1	13.2	130	131	363	35	43
	6	2398	40.5	613	613	18.9	1245	1002	12.8	9.1	96	117	280	28	36
	4	1852	42.6	413	413	18.7	838	668	12.5	6.5	70	119	196	20	28
	2	1307	47.7	214	214	18.7	423	333	12.6	5.3	53	169	113	13	21
2000	10	3618	39.0	1030	1030	19.2	2074	1698	13.5	22.7	235	179	457	38	46
	8	3270	39.4	903	903	19.2	1825	1485	13.4	17.0	176	152	404	36	44
	6	2664	40.5	681	681	19.0	1383	1113	13.1	13.0	135	151	311	29	37
	4	2058	42.6	459	459	18.9	931	742	12.8	10.7	111	176	218	20	28
	2	1452	47.7	238	238	18.9	470	370	13.1	10.0	104	287	125	13	21
2500	10	5065	39.0	1442	1442	19.5	2904	2377	14.2	29.8	290	168	639	39	47
	8	4578	39.4	1264	1264	19.5	2555	2078	14.1	21.6	218	138	565	37	45
	6	3729	40.5	954	954	19.4	1936	1559	14.0	15.6	163	129	435	30	38
	4	2881	42.6	643	643	19.4	1304	1039	13.9	11.8	125	140	305	22	30
	2	2033	47.7	333	333	19.5	658	519	14.4	10.3	105	210	176	15	23
3000	10	6512	39.0	1851	1851	19.7	3680	3012	14.8	35.7	345	156	822	41	49
	8	5886	39.4	1619	1619	19.7	3210	2612	14.8	25.8	260	128	726	38	46
	6	4795	40.5	1209	1209	19.7	2367	1906	15.2	18.3	192	117	559	31	39
	4	3704	42.6	789	789	20.0	1506	1200	15.9	13.1	140	120	393	23	31
	2	2614	47.7	370	370	21.0	681	537	17.8	10.4	106	166	226	16	24

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<sup>1)</sup> Versions with roll-up grille, Katherm HK with linear grille are available on request!

<sup>2)</sup> at LPHW 75/65 °C,  $t_{11} = 20$  °C

<sup>3)</sup> at CHW 16/18,  $t_{11} = 27$  °C, 48% relative humidity

<sup>4)</sup> at CHW 7/12 °C,  $t_{11} = 27$  °C, 48% relative humidity

<sup>5)</sup> Add an additional power consumption of 1 W per thermoelectric actuator.

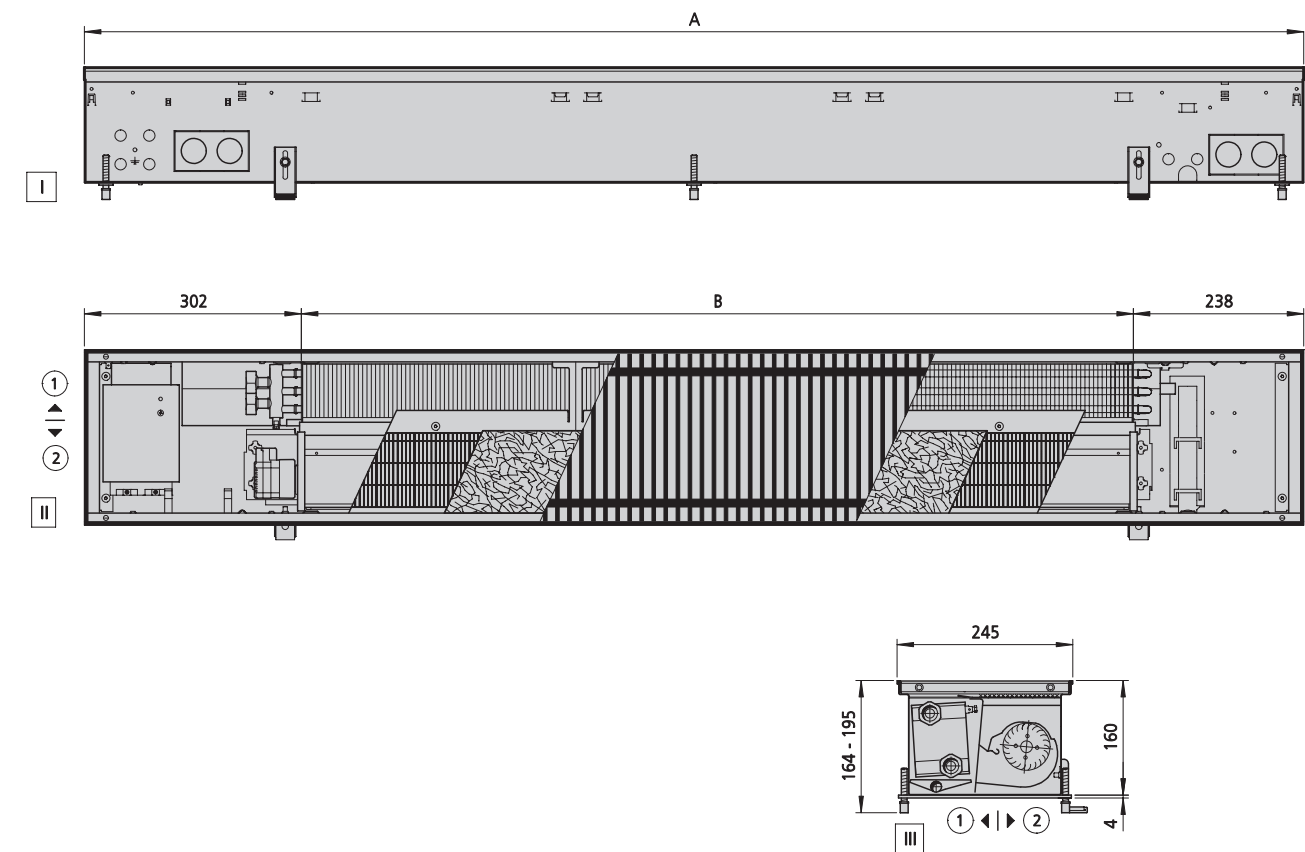
<sup>6)</sup> Values rounded up within the measurement tolerances.

<sup>7)</sup> The sound pressure levels were calculated 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 (in accordance with VDI 2081) Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

# Katherm HK

2-pipe  
Width 245 mm, Height 160 mm

Technical drawing (Dimensions in mm)



- View**
- I Front view
  - II top view (without cover panel)
  - III cross-section
- Further information**
- 1 window side
  - 2 room side

Specifications

Art. no. (**Control option)	Length (A) [mm]	finned length (B) [mm]	Weight [kg]
143242611113**	915	375	16
143242611119**	1200	660	21
143242611129**	1700	1160	31
143242611135**	2000	1460	37
143242611145**	2500	1960	46
143242611155**	3000	2460	56

**Performance data**

Length <sup>1)</sup>	Control voltage	Heat output <sup>2)</sup>	Outlet air temperature	Cooling output, total <sup>3)</sup>	Cooling output, sensible	Outlet air temperature	Cooling output, total <sup>4)</sup>	Cooling output, sensible	Outlet air temperature	Power consumption <sup>5)</sup>	Current consumption	SFP value	Air flow <sup>6)</sup>	Sound pressure level <sup>7)</sup>	Sound power level
[mm]	[V]	[W]	[°C]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[mA]	[Ws/m³]	[m³/h]	[dB(A)]	[dB(A)]
915	10	1452	53.6	251	251	16.1	481	395	7.1	7.1	82	247	104	37	45
	8	1248	55.5	205	205	16.1	396	322	7.1	6.4	68	271	84	31	39
	6	1044	58.5	159	159	16.1	308	248	7.1	5.7	58	315	65	24	32
	4	841	64.0	112	112	16.1	219	174	7.1	5.1	52	403	46	17	25
	2	637	75.0	66	66	16.1	128	101	7.1	4.6	49	600	28	10	18
1200	10	2420	53.6	419	419	16.9	802	659	9.6	11.9	117	249	173	39	47
	8	2080	55.5	341	341	16.4	659	536	8.5	8.7	88	222	141	33	41
	6	1740	58.5	264	264	16.1	514	413	7.1	6.4	67	214	108	27	35
	4	1401	64.0	187	187	16.1	365	291	7.1	5.2	55	247	76	19	27
	2	1061	75.0	110	110	16.1	213	168	7.1	5.0	52	413	44	12	20
1700	10	4355	53.6	754	754	18.1	1443	1186	12.0	18.7	172	217	311	42	50
	8	3744	55.5	615	615	17.7	1187	965	11.3	13.2	130	188	253	36	44
	6	3133	58.5	476	476	17.1	925	744	10.2	9.1	96	168	195	29	37
	4	2522	64.0	337	337	16.2	657	523	8.4	6.5	70	170	137	21	29
	2	1910	75.0	198	198	16.1	383	302	7.1	5.3	53	241	79	15	23
2000	10	4839	53.6	837	837	18.2	1603	1318	12.4	22.7	235	236	345	42	50
	8	4160	55.5	683	683	17.9	1319	1072	11.7	17.0	176	218	281	36	44
	6	3481	58.5	529	529	17.4	1027	827	10.7	13.0	135	216	217	30	38
	4	2802	64.0	374	374	16.4	730	581	9.0	10.7	111	252	152	22	30
	2	2123	75.0	220	220	16.1	426	336	7.1	10.0	104	409	88	15	23
2500	10	6775	53.6	1172	1172	18.6	2245	1845	13.2	29.8	290	222	484	44	52
	8	5824	55.5	956	956	18.4	1846	1501	12.7	21.6	218	198	394	38	46
	6	4873	58.5	740	740	18.0	1438	1158	12.0	15.6	163	185	303	31	39
	4	3922	64.0	524	524	17.3	1022	814	10.6	11.8	125	200	213	23	31
	2	2972	75.0	308	308	16.1	596	470	7.7	10.3	105	300	123	17	25
3000	10	8710	53.6	1507	1507	18.9	2886	2372	13.8	35.7	345	207	622	45	53
	8	7488	55.5	1229	1229	18.7	2373	1930	13.3	25.8	260	183	506	39	47
	6	6266	58.5	951	951	18.3	1849	1488	12.7	18.3	192	168	390	32	40
	4	5043	64.0	673	673	17.7	1314	1046	11.6	13.1	140	172	274	24	32
	2	3821	75.0	395	395	16.3	767	605	9.2	10.4	106	237	159	18	26

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<sup>1)</sup> Versions with roll-up grille, Katherm HK with linear grille are available on request!

<sup>2)</sup> at LPHW 75/65 °C,  $t_{11} = 20$  °C

<sup>3)</sup> at CHW 16/18,  $t_{11} = 27$  °C, 48% relative humidity

<sup>4)</sup> at CHW 7/12 °C,  $t_{11} = 27$  °C, 48% relative humidity

<sup>5)</sup> Add an additional power consumption of 1 W per thermoelectric actuator.

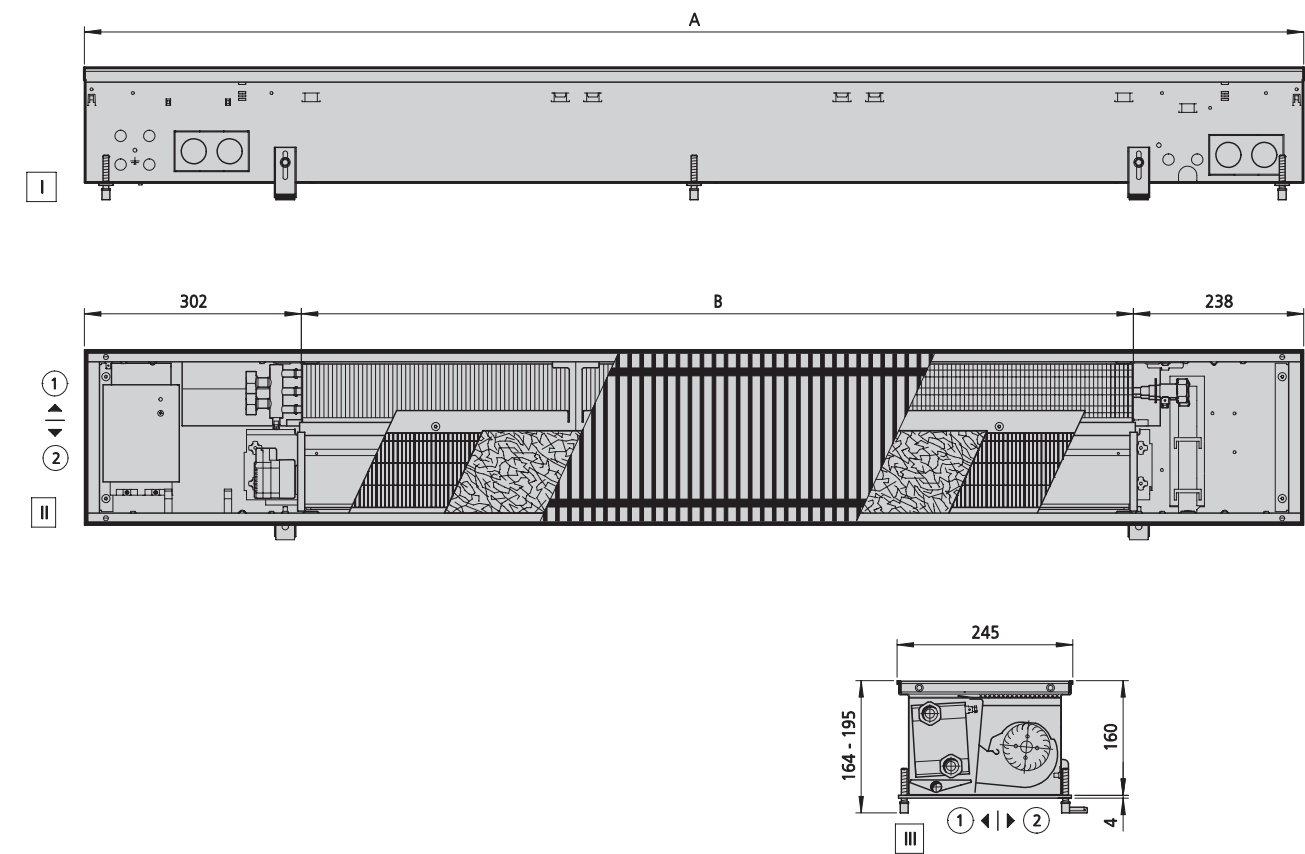
<sup>6)</sup> Values rounded up within the measurement tolerances.

<sup>7)</sup> The sound pressure levels were calculated 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 (in accordance with VDI 2081) Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

# Katherm HK

4-pipe  
Width 245 mm, Height 160 mm

Technical drawing (Dimensions in mm)



- View**
- I Front view
  - II top view (without cover panel)
  - III cross-section
- Further information**
- ① window side
  - ② room side

Specifications

Art. no. (**Control option)	Length (A) [mm]	finned length (B) [mm]	Weight [kg]
143244611113**	915	375	16
143244611119**	1200	660	21
143244611129**	1700	1160	31
143244611135**	2000	1460	37
143244611145**	2500	1960	46
143244611155**	3000	2460	56

**Performance data**

Length <sup>1)</sup>	Control voltage	Heat output <sup>2)</sup>	Outlet air temperature	Cooling output, total <sup>3)</sup>	Cooling output, sensible	Outlet air temperature	Cooling output, total <sup>4)</sup>	Cooling output, sensible	Outlet air temperature	Power consumption <sup>5)</sup>	Current consumption	SFP value	Air flow <sup>6)</sup>	Sound pressure level <sup>7)</sup>	Sound power level
[mm]	[V]	[W]	[°C]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[mA]	[Ws/m³]	[m³/h]	[dB(A)]	[dB(A)]
915	10	1053	44.3	237	237	16.2	453	372	8.0	7.1	82	247	104	37	45
	8	905	45.7	193	193	16.1	373	303	7.1	6.4	68	271	84	31	39
	6	757	47.9	149	149	16.1	290	234	7.1	5.7	58	315	65	24	32
	4	610	51.9	106	106	16.1	206	164	7.1	5.1	52	403	46	17	25
	2	462	61.9	62	62	16.1	120	95	7.1	4.6	49	630	26	10	18
1200	10	1755	44.3	394	394	17.6	755	621	10.9	11.9	117	249	173	39	47
	8	1508	45.7	322	322	17.1	621	505	9.8	8.7	88	222	141	33	41
	6	1262	47.9	249	249	16.3	484	389	8.3	6.4	67	214	108	27	35
	4	1016	51.9	176	176	16.1	344	274	7.1	5.2	55	247	76	19	27
	2	770	61.9	103	103	16.1	201	158	7.1	5.0	52	413	44	12	20
1700	10	3158	44.3	710	710	18.7	1359	1117	13.1	18.7	172	217	311	42	50
	8	2715	45.7	579	579	18.3	1118	909	12.4	13.2	130	188	253	36	44
	6	2272	47.9	448	448	17.8	871	701	11.4	9.1	96	168	195	29	37
	4	1829	51.9	317	317	16.9	619	493	9.7	6.5	70	170	137	21	29
	2	1385	61.9	186	186	16.1	361	285	7.1	5.3	53	241	79	15	23
2000	10	3509	44.3	789	789	18.8	1510	1241	13.3	22.7	235	236	345	42	50
	8	3017	45.7	643	643	18.5	1242	1010	12.8	17.0	176	218	281	36	44
	6	2524	47.9	498	498	18.0	968	779	11.8	13.0	135	216	217	30	38
	4	2032	51.9	352	352	17.2	687	548	10.3	10.7	111	252	152	22	30
	2	1539	61.9	207	207	16.1	401	316	7.1	10.0	104	409	88	15	23
2500	10	4913	44.3	1104	1104	19.2	2114	1738	14.1	29.8	290	222	484	44	52
	8	4223	45.7	901	901	18.9	1739	1414	13.7	21.6	218	198	394	38	46
	6	3534	47.9	697	697	18.6	1355	1090	13.0	15.6	163	185	303	31	39
	4	2844	51.9	493	493	17.9	962	767	11.8	11.8	125	200	213	23	31
	2	2155	61.9	290	290	16.4	562	443	9.1	10.3	105	300	123	17	25
3000	10	6316	44.3	1420	1420	19.4	2718	2234	14.6	35.7	345	207	622	45	53
	8	5430	45.7	1158	1158	19.2	2235	1818	14.2	25.8	260	183	506	39	47
	6	4544	47.9	896	896	18.9	1742	1402	13.7	18.3	192	168	390	32	40
	4	3657	51.9	634	634	18.3	1237	986	12.7	13.1	140	172	274	24	32
	2	2771	61.9	372	372	17.1	722	569	10.5	10.4	106	237	159	18	26

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<sup>2)</sup> at LPHW 75/65 °C,  $t_{l1} = 20$  °C

<sup>3)</sup> at CHW 16/18,  $t_{l1} = 27$  °C, 48% relative humidity

<sup>4)</sup> at CHW 7/12 °C,  $t_{l1} = 27$  °C, 48% relative humidity

<sup>5)</sup> Add an additional power consumption of 1 W per thermoelectric actuator.

<sup>6)</sup> Values rounded up within the measurement tolerances.

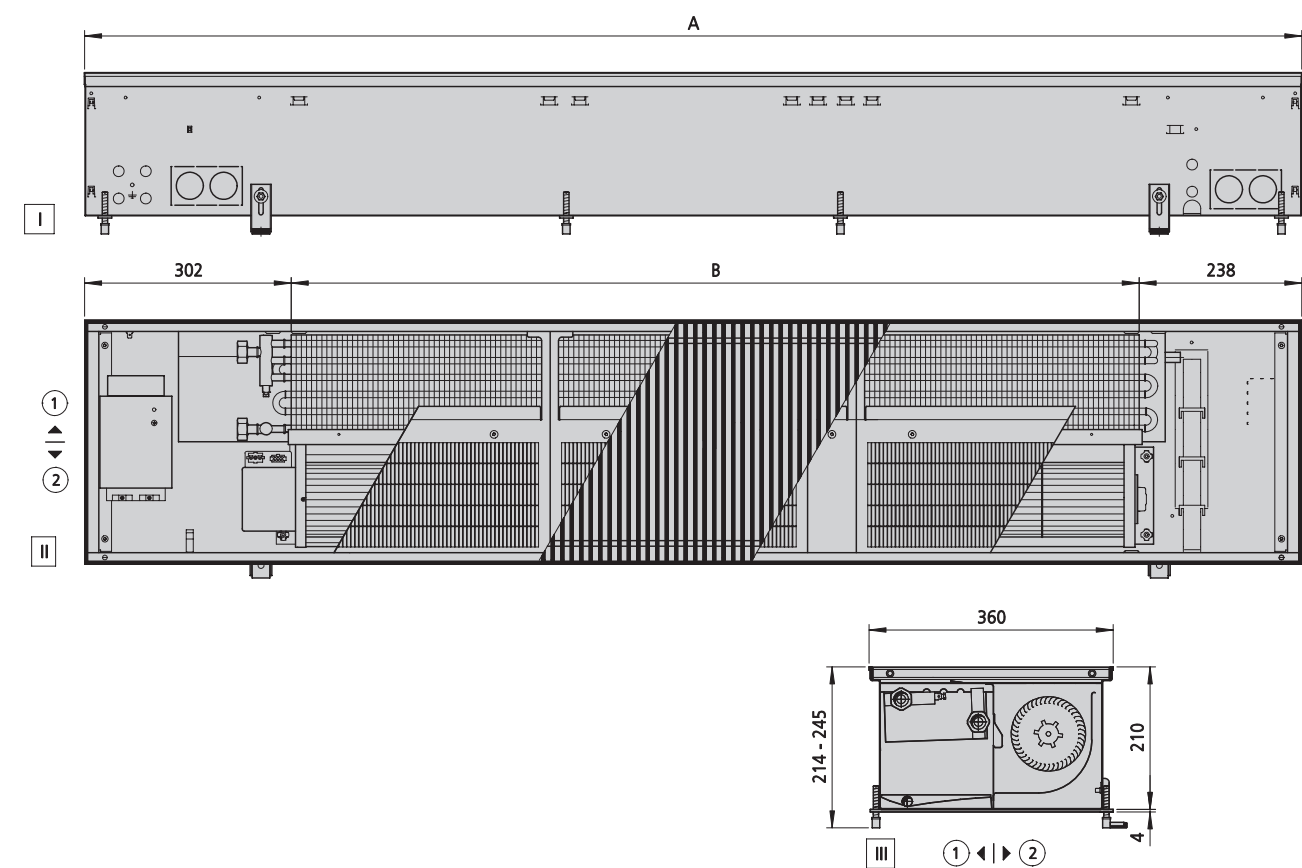
<sup>7)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081) Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

Katherm HK

2-pipe

Width 360 mm, Height 210 mm

Technical drawing (Dimensions in mm)



- View
- I Front view
  - II top view (without cover panel)
  - III cross-section
- Further information
- 1 window side
  - 2 room side

Specifications

Art. no. (**Control option)	Length (A) [mm]	finned length (B) [mm]	Weight [kg]
143362211114**	950	410	22
143362211119**	1200	660	27
143362211122**	1350	810	30
143362211132**	1850	1310	42
143362211140**	2250	1710	56

**Performance data**

Length <sup>1)</sup>	Control voltage	Heat output <sup>2)</sup>	Outlet air temperature	Cooling output, total <sup>3)</sup>	Cooling output, sensible	Outlet air temperature	Cooling output, total <sup>4)</sup>	Cooling output, sensible	Outlet air temperature	Power consumption <sup>5)</sup>	Current consumption	SFP value	Air flow <sup>6)</sup>	Sound pressure level <sup>7)</sup>	Sound power level
[mm]	[V]	[W]	[°C]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[mA]	[Ws/m³]	[m³/h]	[dB(A)]	[dB(A)]
950	10	4647	48.9	818	818	19.6	1631	1325	15.8	11.6	112	108	386	49	57
	8	3982	50.5	665	665	19.4	1335	1075	15.7	7.9	77	91	313	40	48
	6	3167	53.4	490	490	19.0	990	790	15.2	5.2	50	82	227	31	39
	4	2196	59.7	303	303	17.9	608	480	14.1	3.3	32	90	133	21	29
	2	1224	75.0	120	120	16.1	215	168	12.2	2.3	22	175	47	11	19
1200	10	7154	46.8	1352	1352	19.9	2690	2184	16.3	21.8	211	123	639	50	58
	8	6091	48.1	1094	1094	19.8	2186	1760	16.2	13.3	129	92	519	41	49
	6	4836	50.8	793	793	19.6	1587	1266	16.0	7.3	70	69	377	32	40
	4	3387	56.9	470	470	19.0	936	739	15.5	3.7	36	61	220	22	30
	2	1934	75.0	185	185	16.8	335	262	14.0	2.6	25	119	79	12	20
1350	10	8669	46.2	1674	1674	20.0	3330	2704	16.4	27.0	261	123	792	50	58
	8	7337	47.4	1354	1354	20.0	2704	2177	16.3	16.4	159	92	642	42	50
	6	5790	49.7	979	979	19.8	1957	1561	16.2	9.0	87	69	466	33	41
	4	4050	55.7	572	572	19.3	1135	896	15.9	4.5	44	60	272	22	30
	2	2333	75.0	222	222	17.5	402	314	14.7	3.2	31	112	102	13	21
1850	10	12555	45.6	2489	2489	20.2	4953	4021	16.6	38.6	373	118	1177	51	59
	8	10434	46.2	2014	2014	20.2	4020	3238	16.5	24.4	236	92	955	43	51
	6	7941	47.4	1455	1455	20.0	2904	2317	16.5	14.2	137	74	693	34	42
	4	5187	50.7	837	837	19.8	1645	1299	16.5	7.9	76	70	405	23	31
	2	2708	64.8	281	281	19.1	489	383	17.1	5.5	54	138	145	14	22
2250	10	16884	45.6	3348	3348	20.3	6661	5408	16.7	54.0	521	123	1583	53	61
	8	14032	46.2	2708	2708	20.3	5407	4354	16.7	33.0	318	92	1284	45	53
	6	10680	47.4	1956	1956	20.2	3906	3115	16.7	18.0	174	70	933	35	43
	4	6976	50.7	1125	1125	20.0	2213	1747	16.7	9.2	88	61	544	25	33
	2	3642	64.8	377	377	19.5	658	515	17.5	6.4	61	118	195	16	24

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<sup>3)</sup> at CHW 16/18,  $t_{11} = 27$  °C, 48% relative humidity

<sup>4)</sup> at CHW 7/12 °C,  $t_{11} = 27$  °C, 48% relative humidity

<sup>5)</sup> Add an additional power consumption of 1 W per thermoelectric actuator.

<sup>6)</sup> Values rounded up within the measurement tolerances.

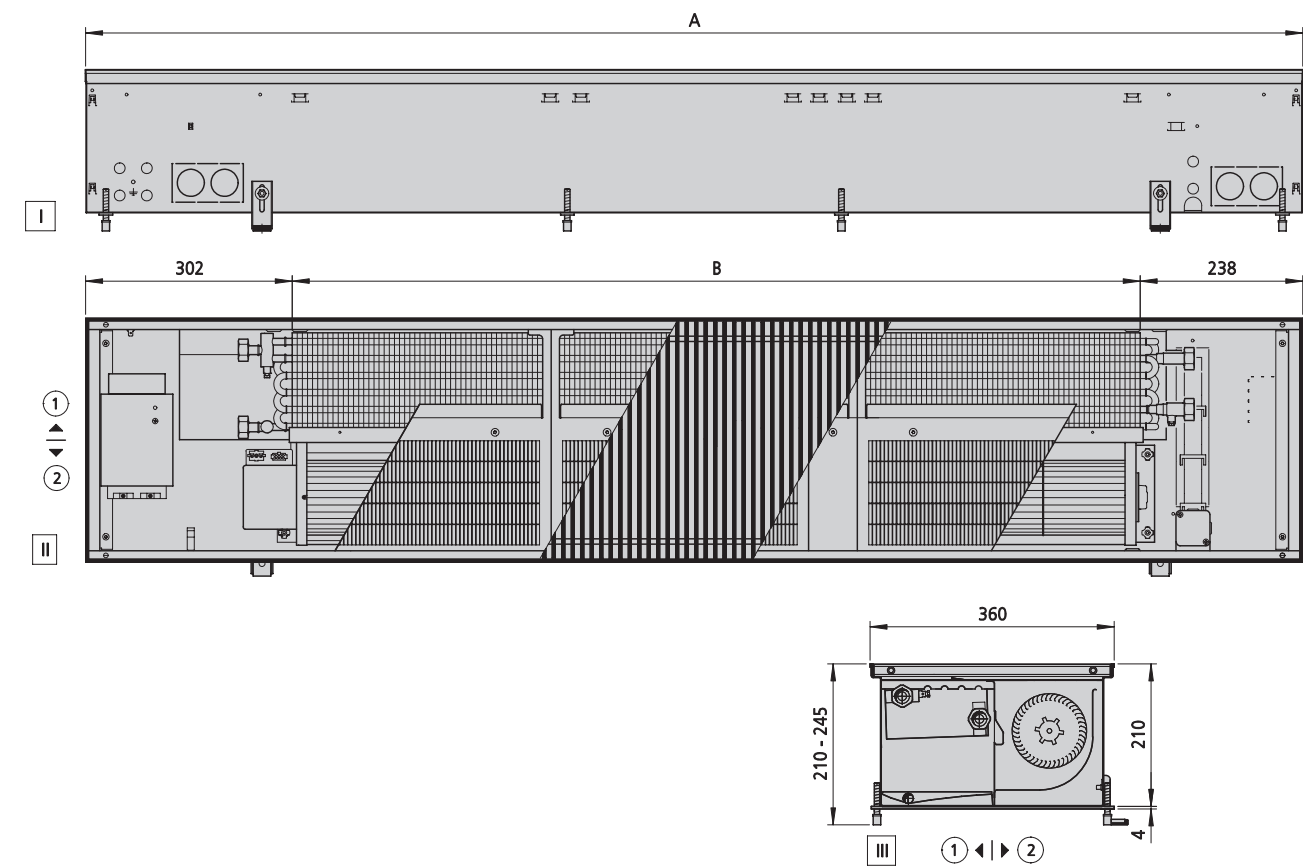
<sup>7)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081) Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

Katherm HK

4-pipe

Width 360 mm, Height 210 mm

Technical drawing (Dimensions in mm)



- View
- I Front view
  - II top view (without cover panel)
  - III cross-section
- Further information
- 1 window side
  - 2 room side

Specifications

Art. no. (**Control option)	Length (A) [mm]	finned length (B) [mm]	Weight [kg]
143364211114**	950	410	22
143364211119**	1200	660	27
143364211122**	1350	810	31
143364211132**	1850	1310	43
143364211140**	2250	1710	57

**Performance data**

Length <sup>1)</sup>	Control voltage	Heat output <sup>2)</sup>	Outlet air temperature	Cooling output, total <sup>3)</sup>	Cooling output, sensible	Outlet air temperature	Cooling output, total <sup>4)</sup>	Cooling output, sensible	Outlet air temperature	Power consumption <sup>5)</sup>	Current consumption	SFP value	Air flow <sup>6)</sup>	Sound pressure level <sup>7)</sup>	Sound power level
[mm]	[V]	[W]	[°C]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[mA]	[Ws/m³]	[m³/h]	[dB(A)]	[dB(A)]
950	10	2982	38.5	771	771	19.9	1539	1250	16.4	11.6	112	108	386	49	57
	8	2478	39.0	628	628	19.7	1262	1016	16.2	7.9	77	91	313	40	48
	6	1886	39.9	465	465	19.3	939	749	15.7	5.2	50	82	227	31	39
	4	1232	42.3	288	288	18.3	578	456	14.6	3.3	32	90	133	21	29
	2	643	52.5	114	114	16.1	203	159	12.7	2.3	22	175	47	11	19
1200	10	4944	38.5	1273	1273	20.3	2534	2058	16.8	21.8	211	123	639	50	58
	8	4109	39.0	1031	1031	20.2	2059	1658	16.7	13.3	129	92	519	41	49
	6	3127	39.9	748	748	20.0	1498	1195	16.6	7.3	70	69	377	32	40
	4	2043	42.3	445	445	19.4	888	701	16.0	3.7	36	61	220	22	30
	2	1066	52.5	176	176	17.2	318	249	14.5	2.6	25	119	79	12	20
1350	10	6121	38.5	1576	1576	20.4	3137	2547	16.9	27.0	261	123	792	50	58
	8	5087	39.0	1275	1275	20.3	2547	2051	16.9	16.4	159	92	642	42	50
	6	3872	39.9	922	922	20.1	1844	1471	16.8	9.0	87	69	466	33	41
	4	2529	42.3	541	541	19.7	1075	848	16.5	4.5	44	60	272	22	30
	2	1320	52.5	211	211	17.8	382	299	15.2	3.2	31	117	97	13	21
1850	10	9104	38.5	2344	2344	20.6	4665	3787	17.1	38.6	373	118	1177	51	59
	8	7566	39.0	1896	1896	20.5	3786	3049	17.1	24.4	236	92	955	43	51
	6	5758	39.9	1370	1370	20.4	2735	2182	17.1	14.2	137	74	693	34	42
	4	3761	42.3	788	788	20.1	1550	1223	17.1	7.9	76	70	405	23	31
	2	1964	52.5	264	264	19.5	461	360	17.6	5.5	54	138	145	14	22
2250	10	12243	38.5	3153	3153	20.7	6273	5093	17.2	54.0	521	123	1583	53	61
	8	10175	39.0	2550	2550	20.6	5092	4101	17.2	33.0	318	92	1284	45	53
	6	7744	39.9	1842	1842	20.5	3678	2934	17.2	18.0	174	70	933	35	43
	4	5058	42.3	1060	1060	20.3	2084	1645	17.3	9.2	88	61	544	25	33
	2	2641	52.5	356	356	19.8	620	485	17.9	6.4	61	118	195	16	24

Use our calculation tools on our website to easily calculate heat outputs and other technical data with just a few clicks!

► <https://www.kampmanngroup.com/hvac/products/trench-technology/katherm-hk#Calculate-performance-data>

<sup>1)</sup> Versions with roll-up grille, Katherm HK with linear grille are available on request!

<sup>2)</sup> at LPHW 75/65 °C,  $t_{11} = 20$  °C

<sup>3)</sup> at CHW 16/18,  $t_{11} = 27$  °C, 48% relative humidity

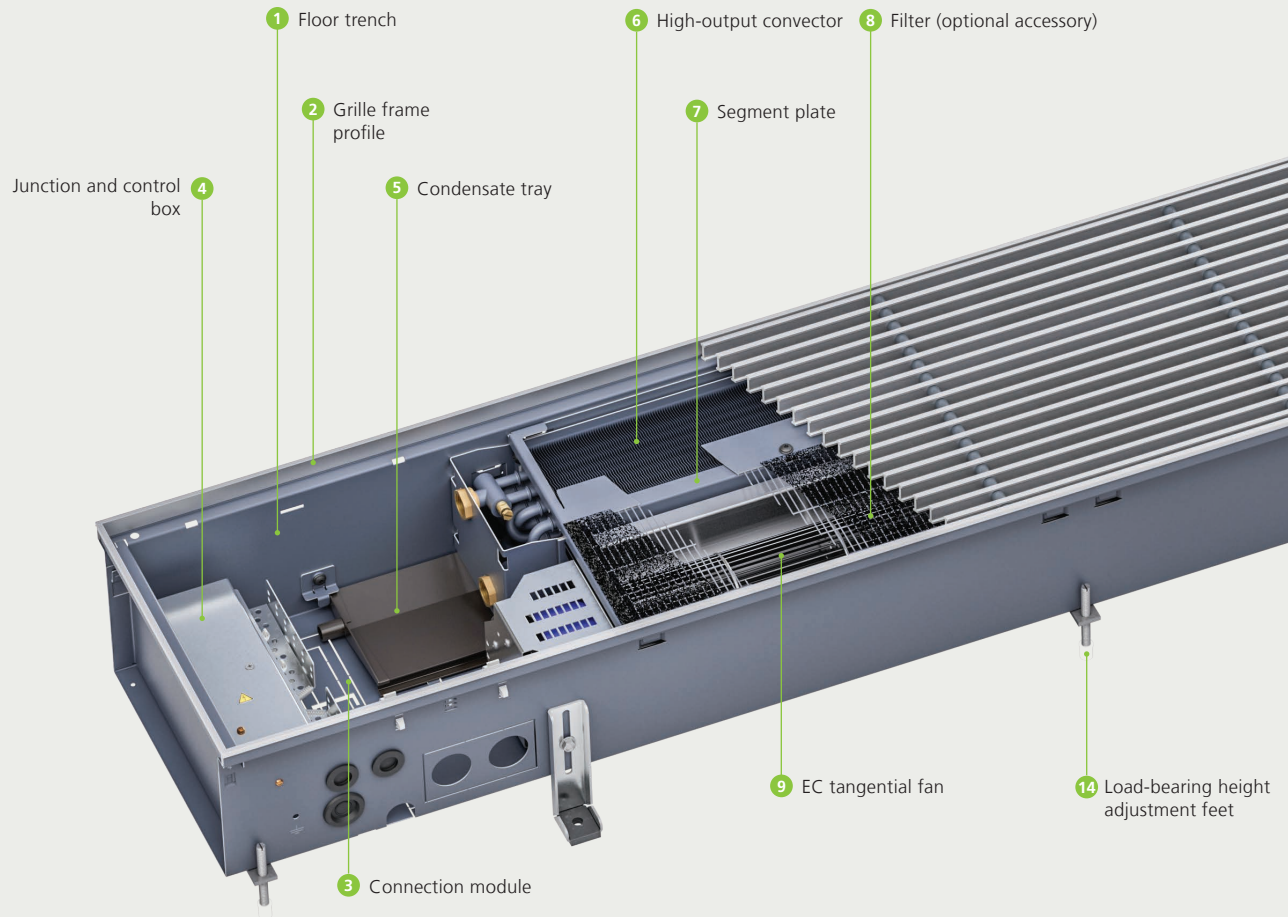
<sup>4)</sup> at CHW 7/12 °C,  $t_{11} = 27$  °C, 48% relative humidity

<sup>5)</sup> Add an additional power consumption of 1 W per thermoelectric actuator.

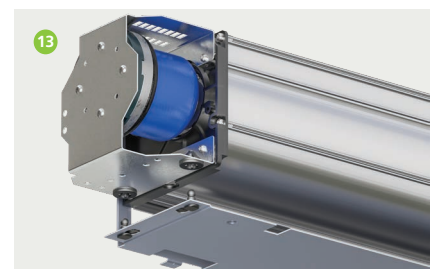
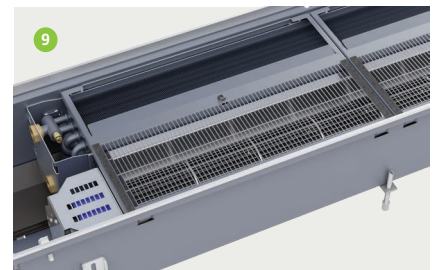
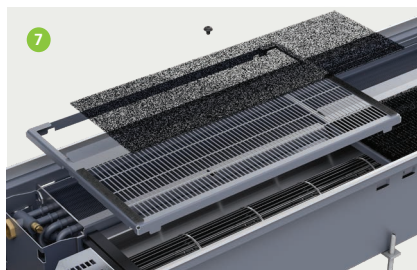
<sup>6)</sup> Values rounded up within the measurement tolerances.

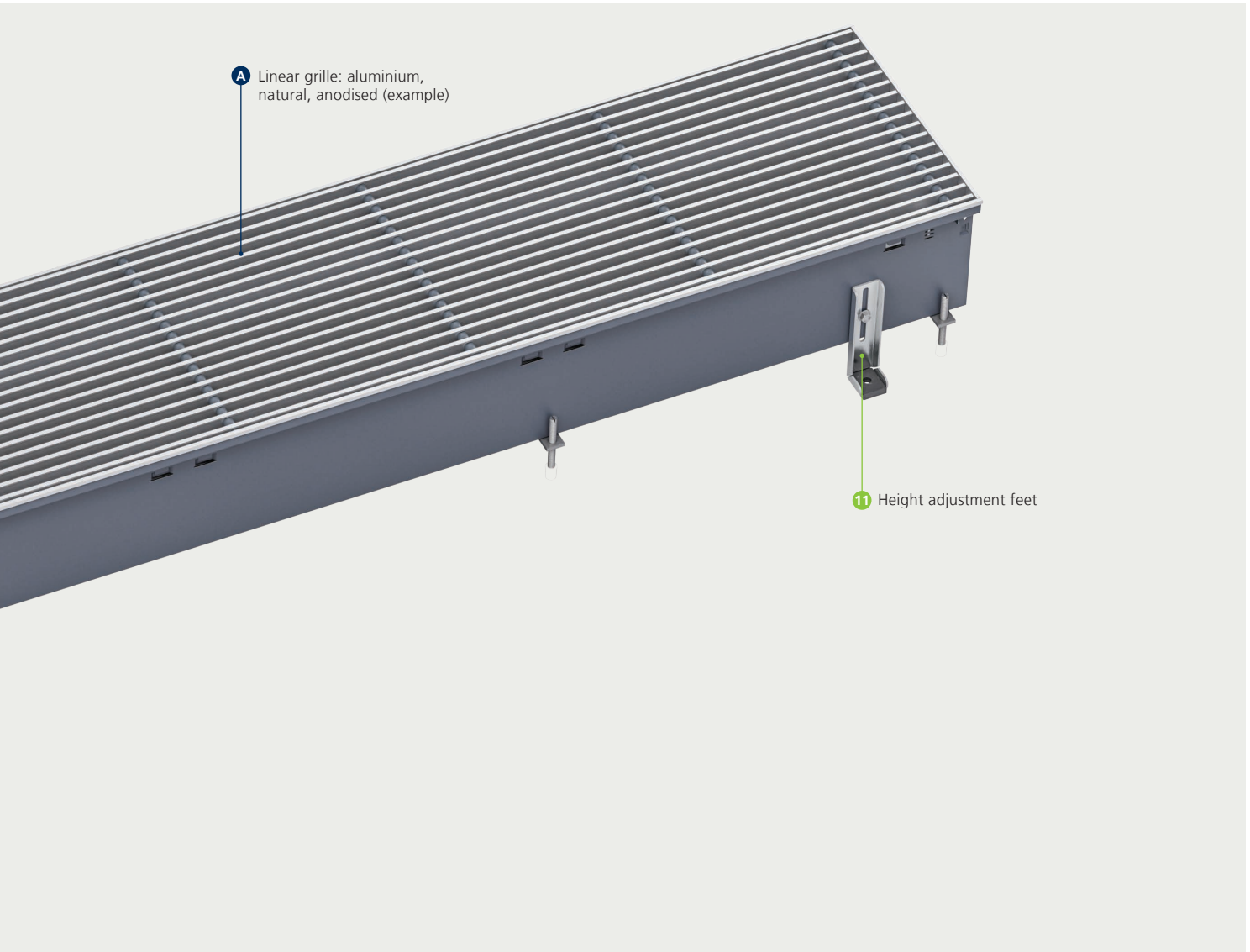
<sup>7)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081) Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

## Katherm HK 290 at a glance



## Features





**A** Linear grille: aluminium, natural, anodised (example)

**11** Height adjustment feet

**1 Floor trench:**

- › modular design for 2-pipe and 4-pipe systems
- › prepared for connection, output and expansion module
- › made of sendzimir galvanised sheet steel, painted graphite-grey
- › with pre-punched connection openings for heat exchanger and electrical connection

**2 Grille frame profile:**

- › to match the colour of the double T-profile grille
- › with protective lip on 3 sides

**3 Connection module:**

- › contains all building services interfaces on one connection side
- › easy and time-saving installation
- › with junction and control box, EC fan motor, heat exchanger connection, and condensate connection with optional condensate pump

**4 Junction and control box:**

- › ready-wired, for fast and safe electrical connection, saves installation time

- › KaControl MC or electromechanical control
- › with integrated cable duct for clean, safe cable laying

**5 Condensate tray:**

- › for safe condensate drainage
- › specifically designed for ease of cleaning in line with the Hygiene Directive VDI 6022
- › can be removed to the room side for ease of cleaning

**6 High-output convector:**

- › made of copper/aluminium, painted graphite-grey
- › suitable for max. continuous operating pressure of 10 bar and 120 °C
- › connection female thread features anti-torsion device; doubles as splash guard

**7 Segment plate:**

- › acts as a finger guard for the tangential fan, filter mounting frame, air guide plate, grille seat and reinforcing braces to strengthen the trench

**8 Filter:**

- › optional accessory

**9 EC tangential fan:**

- › with high-output, noise-optimised EC fan motor
- › as a continuous fan strip with flow-optimised impellers, cascaded by an innovative coupling system
- › produces a uniform air flow through the convector
- › continuously variable fan speed control via 0–10 V signal, motor monitoring with internal fault processing

**10 Cover plate:**

- › as visual protection and protection from dirt
- › for connection and expansion module
- › secured with locking screws

**11 Height adjustment feet:**

- › for the secure mounting of the trench
- › with sound insulation

**12 Condensate pump mounting kit:**

- › to drain condensate

- › supplied separately or factory-fitted; directly wired in the electrical junction box
- › with quiet condensate pump in compact housing, with connecting bracket
- › plug-in power supply and error message

**13 Attachment of tangential fan:**

- › ease of removal of the tangential fan without a tool
- › innovative combined coupling/ball joint system
- › simultaneous acoustic decoupling

**14 Load-bearing height adjustment feet:**

- › for height adjustment and support of the trench
- › with soundproofing cap

**A Linear grille: aluminium, natural, anodised (example)**

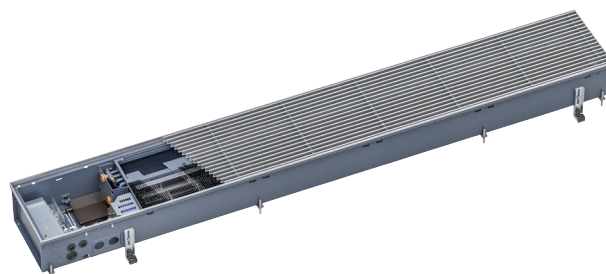
- › grille bar dimensions 18 x 5 mm
- › connections made of corrosion-proof steel springs with spacers in a matching colour
- › free cross-section approx. 70%

# Product data



## Product benefits

- ▶ Effective heating and cooling with the additional introduction of treated primary air
- ▶ Heat and cooling outputs tested independently in accordance with the DIN EN 16430 test standard
- ▶ Hygiene-compliant and simple to clean in accordance with VDI 6022
- ▶ Short-circuit-optimised air outlet flow for even temperature distribution and excellent comfort
- ▶ Cascaded EC tangential fans for continuous heat exchanger flow
- ▶ Low noise level due to sound-decoupled tangential fans
- ▶ Life Cycle Assessment data published in the form of an EPD according to EN 15804 and available to download from the International EPD System. Registered in the DGNB Navigator construction product platform.



## Features

- ▶ Modular parametric design with connection, power and expansion module
- ▶ Sound-decoupled tangential fan fixing, easy removal without tools
- ▶ Connection and control box for fast electrical connection
- ▶ Continuous string of tangential fans due to innovative coupling system
- ▶ Condensate pump kit with quiet and continuously variable controlled condensate pump
- ▶ Connection internal thread with robust anti-twist protection
- ▶ Roll-up and linear grilles with colour-coordinated spacers

<b>Convection</b>	▶ EC tangential fan
<b>Heating</b>	▶ LPHW
<b>Cooling</b>	▶ CHW
<b>Ventilation</b>	▶ Optionally by supply-air modules or air supply ducts
<b>KaControl</b>	▶ Optional

## Performance data

<b>Heat output<sup>1)</sup></b>	▶ 432 – 20849
<b>Cooling output<sup>2)</sup></b>	▶ 88 – 3745
<b>Sound pressure level<sup>3)</sup></b>	▶ 11 – 52
<b>Sound power level</b>	▶ 19 – 60

<sup>1)</sup> at LPHW 75/65 °C,  $t_{l1} = 20$  °C

<sup>2)</sup> at CHW 16/18,  $t_{l1} = 27$  °C, 48% relative humidity

<sup>3)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m<sup>3</sup> and a reverberation time of 0.5 s (in accordance with VDI 2081)

### Operating limits

- ▶ Max. operating pressure: 10 bar
- ▶ Max. entering water temperature: 95 °C
- ▶ Min. entering water temperature: 5 °C
- ▶ Max. air inlet temp.: 40 °C
- ▶ Max. glycol volume: 50 %

## Applications

Buildings of all kinds, in which there is a high cooling load due to internal loads and the effects of sunlight. Experience has shown that Katherm HK can provide low-cost, effective cooling with low, non-disruptive sound levels.



# Selection guide Katherm HK / HK E

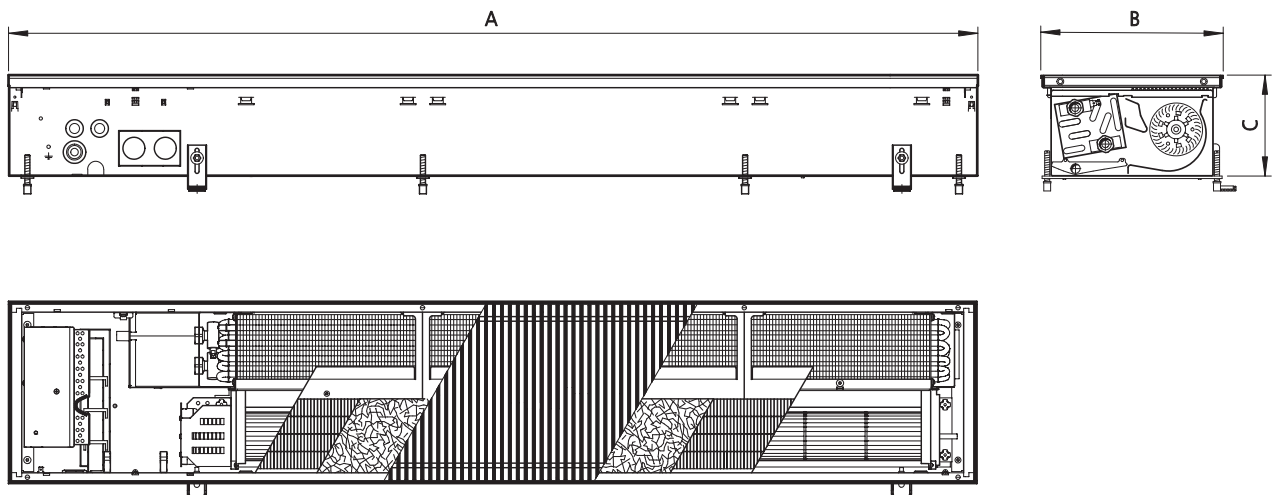
Length (A) [mm]	Width (B) [mm]	Height (C) [mm]	System						
			2-pipe		2-pipe electric heating element			4-pipe	
			heat output LPHW <sup>1)</sup> [W]	Cooling output <sup>2)</sup> [W]	electric heat output <sup>3)</sup> [W]	heat output LPHW <sup>1)</sup> [W]	Cooling output <sup>2)</sup> [W]	heat output LPHW <sup>1)</sup> [W]	Cooling output <sup>2)</sup> [W]
830 – 2990	290	160	892 – 20849	90 – 3745	200 – 1500	993 – 14599	108 – 2589	432 – 12513	88 – 3670
915 – 3000	320	130	697 – 10465	125 – 1925		649 – 9800	121 – 1851	436 – 6512	121 – 1851
	245	160	637 – 8710	66 – 1507	---	---	---	462 – 6316	62 – 1420
950 – 2250	360	210	1224 – 16884	120 – 3348	---	---	---	643 – 12243	114 – 3153

<sup>1)</sup> at LPHW 75/65 °C,  $t_{l,1} = 20$  °C, with fan coils

<sup>2)</sup> with CHW 16/18 °C,  $t_{l,1} = 27$  °C, 48% rel. humidity, with fan coils

<sup>3)</sup> when operating with an electric heating element

## Technical drawing (Dimensions in mm)

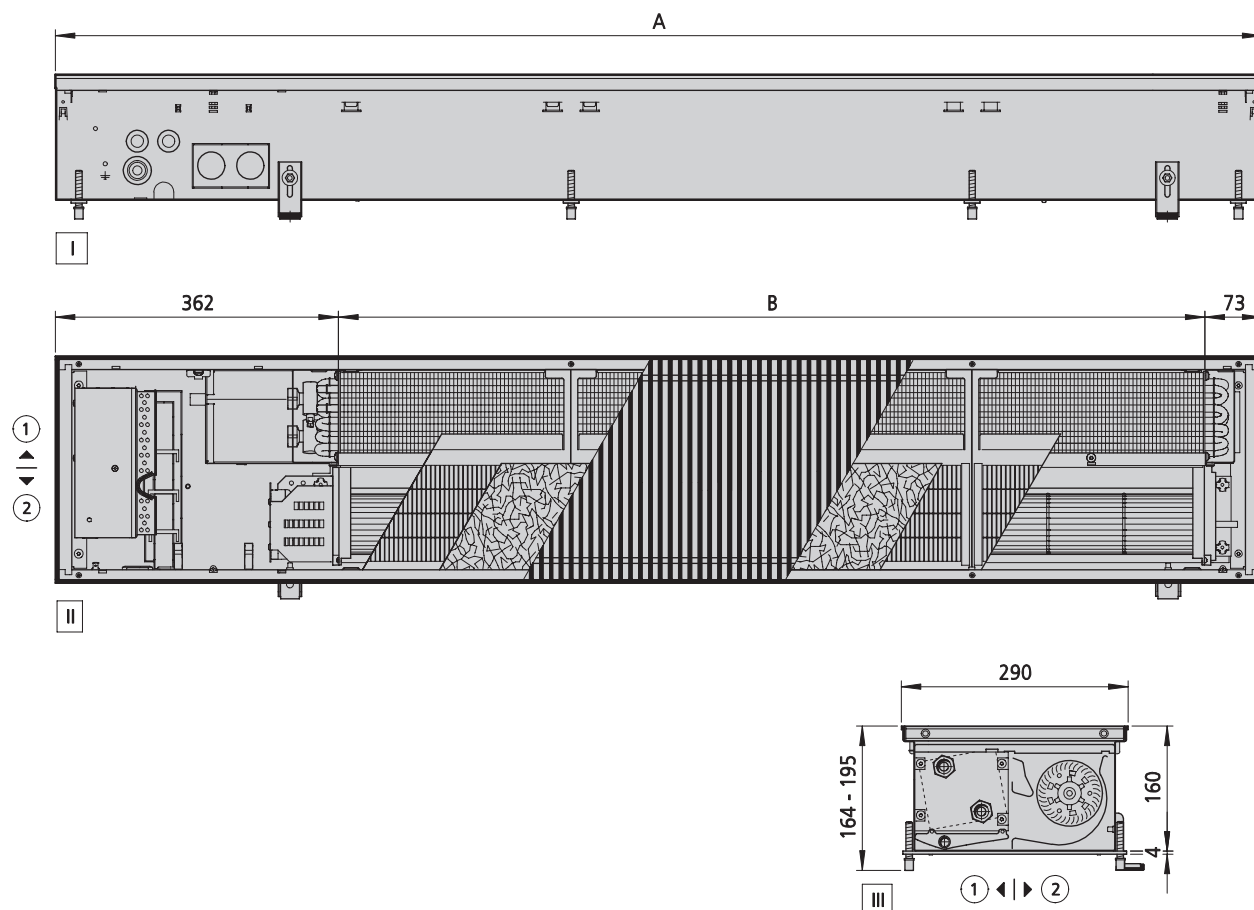


# Katherm HK

2-pipe

Width 290 mm, Height 160 mm

## Technical drawing (Dimensions in mm)



### View

- I Front view
- II top view (without cover panel)
- III cross-section

### Further information

- ① window side
- ② room side

**Specifications**

Art. no. (**Control option)	Length (A) [mm]	finned length (B) [mm]	Weight [kg]
143492611111**	830	395	17
143492611113**	930	495	19
143492611115**	1030	595	21
143492611117**	1130	695	24
143492611119**	1230	795	26
143492611121**	1340	905	28
143492611123**	1440	1005	30
143492611125**	1540	1105	33
143492611127**	1640	1205	35
143492611129**	1740	1305	37
143492611131**	1840	1405	40
143492611133**	1940	1505	42
143492611135**	2040	1605	44
143492611138**	2150	1715	47
143492611140**	2250	1815	49
143492611142**	2350	1915	51
143492611144**	2450	2015	53
143492611146**	2550	2115	56
143492611148**	2650	2215	58
143492611150**	2750	2315	60
143492611152**	2850	2415	63

## Performance data

Length <sup>1)</sup>	Control voltage	Heat output <sup>2)</sup>	Outlet air temperature	Cooling output, total <sup>3)</sup>	Cooling output, sensible	Outlet air temperature	Cooling output, total <sup>4)</sup>	Cooling output, sensible	Outlet air temperature	Power consumption <sup>5)</sup>	Current consumption	SFP value	Air flow <sup>6)</sup>	Sound pressure level <sup>7)</sup>	Sound power level
[mm]	[V]	[W]	[°C]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[mA]	[Ws/m³]	[m³/h]	[dB(A)]	[dB(A)]
830	10	3857	53.2	609	609	20.5	1209	1010	16.2	21.1	253	272	278	47	55
	8	3236	55.4	475	475	20.5	958	787	15.9	12.3	161	201	219	39	47
	6	2532	59.0	335	335	19.9	689	557	14.4	6.9	99	159	155	28	36
	4	1718	65.0	204	204	18.3	427	339	11.3	3.8	61	150	92	16	24
	2	892	73.2	90	90	16.6	180	141	8.8	2.4	41	214	40	11	19
930	10	4631	51.6	768	768	20.5	1523	1272	16.3	23.5	273	241	351	48	56
	8	3848	53.3	597	597	20.5	1201	987	16.0	13.3	171	174	277	40	48
	6	2997	56.6	415	415	20.0	850	687	14.6	7.3	104	133	196	29	37
	4	2052	62.5	245	245	18.6	509	404	11.9	3.9	63	123	116	17	25
	2	1091	71.5	108	108	16.9	217	170	9.3	2.4	42	171	51	12	20
1030	10	5423	50.6	928	928	20.5	1839	1536	16.3	26.1	294	221	425	48	56
	8	4458	51.9	720	720	20.5	1448	1190	16.0	14.5	182	156	334	40	48
	6	3441	54.7	498	498	20.0	1017	821	14.7	7.7	108	116	237	29	37
	4	2360	60.5	286	286	18.8	593	470	12.3	4.1	64	104	140	17	25
	2	1277	69.9	124	124	17.2	250	196	9.7	2.4	42	143	61	12	20
1130	10	6238	50.0	1088	1088	20.5	2156	1801	16.3	28.9	317	209	498	48	56
	8	5078	51.0	844	844	20.5	1696	1394	16.0	15.7	192	144	392	40	48
	6	3875	53.4	582	582	20.0	1186	958	14.8	8.1	112	105	278	29	37
	4	2649	58.7	328	328	18.9	678	538	12.5	4.2	65	92	164	17	25
	2	1454	68.5	139	139	17.4	281	220	10.1	2.4	42	123	72	12	20
1230	10	7072	49.7	1248	1248	20.5	2473	2066	16.3	31.9	340	201	571	48	56
	8	5711	50.4	968	968	20.5	1945	1599	16.0	16.9	203	135	450	40	48
	6	4309	52.4	667	667	20.0	1358	1097	14.8	8.5	117	96	319	29	37
	4	2924	57.3	371	371	19.0	765	607	12.7	4.3	67	82	188	17	25
	2	1621	67.1	154	154	17.6	311	244	10.4	2.5	43	108	82	12	20
1340	10	7665	49.2	1376	1376	20.5	2726	2278	16.3	34.4	360	197	630	50	58
	8	6050	49.2	1067	1067	20.5	2145	1762	16.0	17.9	212	130	496	42	50
	6	4310	49.3	735	735	20.1	1495	1207	14.8	8.9	120	91	352	31	39
	4	2563	49.6	401	401	19.1	819	650	13.0	4.4	68	76	207	19	27
	2	1159	50.6	132	132	18.8	258	202	12.5	2.5	43	98	91	14	22
1440	10	8556	49.2	1536	1536	20.5	3043	2543	16.3	37.7	385	193	703	50	58
	8	6753	49.2	1191	1191	20.5	2394	1967	16.0	19.2	224	125	554	42	50
	6	4811	49.3	820	820	20.1	1669	1348	14.8	9.3	124	85	393	31	39
	4	2861	49.6	447	447	19.1	914	726	13.0	4.5	69	70	231	19	27
	2	1294	50.6	147	147	18.8	288	225	12.5	2.5	43	89	101	14	22
1540	10	9447	49.2	1696	1696	20.5	3360	2807	16.3	41.2	412	191	776	50	58
	8	7457	49.2	1316	1316	20.5	2643	2172	16.0	20.6	235	121	611	42	50
	6	5312	49.3	906	906	20.1	1843	1488	14.8	9.8	129	81	434	31	39
	4	3159	49.6	494	494	19.1	1009	801	13.0	4.6	70	65	255	19	27
	2	1429	50.6	163	163	18.8	318	249	12.5	2.5	43	81	112	14	22
1640	10	10338	49.2	1856	1856	20.5	3677	3072	16.3	44.8	439	190	849	50	58
	8	8160	49.2	1440	1440	20.5	2893	2377	16.0	22.0	247	118	669	42	50
	6	5814	49.3	991	991	20.1	2016	1628	14.8	10.2	133	77	475	31	39
	4	3458	49.6	540	540	19.1	1104	877	13.0	4.7	72	61	279	19	27
	2	1563	50.6	178	178	18.8	348	272	12.5	2.5	43	74	123	14	22
1740	10	11230	49.2	2016	2016	20.5	3994	3337	16.3	48.6	467	190	923	50	58
	8	8863	49.2	1564	1564	20.5	3142	2582	16.0	23.4	259	116	727	42	50
	6	6315	49.3	1076	1076	20.1	2190	1769	14.8	10.6	138	74	515	31	39
	4	3756	49.6	587	587	19.1	1200	952	13.0	4.8	73	57	304	19	27
	2	1698	50.6	193	193	18.8	378	296	12.5	2.6	44	69	133	14	22

CONTINUED ►

<sup>1)</sup> Versions with roll-up grille, Katherm HK with linear grille are available on request!

<sup>2)</sup> at LPHW 75/65 °C,  $t_{l1} = 20$  °C

<sup>3)</sup> at CHW 16/18,  $t_{l1} = 27$  °C, 48% relative humidity

<sup>4)</sup> at CHW 7/12 °C,  $t_{l1} = 27$  °C, 48% relative humidity

<sup>5)</sup> Add an additional power consumption of 1 W per thermoelectric actuator.

<sup>6)</sup> Values rounded up within the measurement tolerances.

<sup>7)</sup> The sound pressure levels were calculated 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 (in accordance with VDI 2081) Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

Length <sup>1)</sup>	Control voltage	Heat output <sup>2)</sup>	Outlet air temperature	Cooling output, total <sup>3)</sup>	Cooling output, sensible	Outlet air temperature	Cooling output, total <sup>4)</sup>	Cooling output, sensible	Outlet air temperature	Power consumption <sup>5)</sup>	Current consumption	SFP value	Air flow <sup>6)</sup>	Sound pressure level <sup>7)</sup>	Sound power level
[mm]	[V]	[W]	[°C]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[mA]	[Ws/m²]	[m³/h]	[dB(A)]	[dB(A)]
1840	10	12121	49.2	2176	2176	20.5	4311	3602	16.3	52.5	496	190	996	50	58
	8	9567	49.2	1688	1688	20.5	3391	2787	16.0	24.8	272	114	784	42	50
	6	6816	49.3	1162	1162	20.1	2364	1909	14.8	11.1	142	72	556	31	39
	4	4054	49.6	633	633	19.1	1295	1028	13.0	4.9	74	54	328	19	27
	2	1833	50.6	209	209	18.8	408	319	12.5	2.6	44	64	144	14	22
1940	10	13012	49.2	2336	2336	20.5	4628	3867	16.3	56.5	526	190	1069	50	58
	8	10270	49.2	1812	1812	20.5	3641	2992	16.0	26.3	284	112	842	42	50
	6	7317	49.3	1247	1247	20.1	2538	2050	14.8	11.5	146	69	597	31	39
	4	4352	49.6	680	680	19.1	1390	1103	13.0	5.0	75	52	352	19	27
	2	1968	50.6	224	224	18.8	438	343	12.5	2.6	44	60	154	14	22
2040	10	13903	49.2	2496	2496	20.5	4945	4132	16.3	60.5	557	191	1142	50	58
	8	10974	49.2	1936	1936	20.5	3890	3197	16.0	27.7	297	111	900	42	50
	6	7818	49.3	1333	1333	20.1	2712	2190	14.8	12.0	151	67	638	31	39
	4	4650	49.6	727	727	19.1	1485	1179	13.0	5.1	76	49	376	19	27
	2	2103	50.6	239	239	18.8	468	366	12.5	2.6	44	57	165	14	22
2150	10	14569	49.1	2624	2624	20.5	5199	4344	16.3	63.8	582	191	1201	52	60
	8	11420	48.9	2035	2035	20.5	4090	3361	16.0	28.9	307	110	946	44	52
	6	7948	48.4	1401	1401	20.1	2850	2302	14.8	12.3	154	66	671	33	41
	4	4412	46.8	761	761	19.1	1551	1231	13.0	5.2	77	48	395	21	29
	2	1759	44.3	225	225	19.3	429	336	13.3	2.6	44	54	173	16	24
2250	10	15472	49.1	2785	2785	20.5	5516	4608	16.3	68.0	613	192	1274	52	60
	8	12145	49.0	2160	2160	20.5	4339	3566	16.0	30.3	319	109	1003	44	52
	6	8479	48.5	1486	1486	20.1	3024	2443	14.8	12.7	158	64	712	33	41
	4	4725	47.0	808	808	19.1	1648	1308	13.0	5.3	78	46	419	21	29
	2	1882	44.5	241	241	19.2	460	360	13.2	2.6	44	52	184	16	24
2350	10	16372	49.1	2945	2945	20.5	5833	4873	16.3	72.2	646	193	1347	52	60
	8	12866	49.1	2284	2284	20.5	4588	3771	16.0	31.8	332	108	1061	44	52
	6	9007	48.7	1572	1572	20.1	3198	2583	14.8	13.1	162	63	753	33	41
	4	5040	47.2	855	855	19.1	1745	1385	13.0	5.4	79	44	443	21	29
	2	2007	44.7	257	257	19.2	491	384	13.2	2.6	44	49	194	16	24
2450	10	17270	49.1	3105	3105	20.5	6150	5138	16.3	76.3	678	193	1420	52	60
	8	13584	49.1	2408	2408	20.5	4838	3976	16.0	33.2	344	107	1119	44	52
	6	9533	48.8	1657	1657	20.1	3372	2723	14.8	13.5	166	61	794	33	41
	4	5355	47.5	902	902	19.1	1842	1462	13.0	5.5	80	42	467	21	29
	2	2133	44.9	273	273	19.2	522	409	13.1	2.7	44	47	205	16	24
2550	10	18166	49.1	3265	3265	20.5	6467	5403	16.3	80.4	711	194	1494	52	60
	8	14299	49.1	2532	2532	20.5	5087	4181	16.0	34.6	357	106	1176	44	52
	6	10058	48.9	1743	1743	20.1	3546	2864	14.8	13.9	170	60	835	33	41
	4	5672	47.7	949	949	19.1	1938	1538	13.0	5.6	80	41	491	21	29
	2	2260	45.1	289	289	19.2	553	433	13.1	2.7	44	45	216	16	24
2650	10	19061	49.1	3425	3425	20.5	6784	5668	16.3	84.5	744	194	1567	52	60
	8	15013	49.1	2656	2656	20.5	5336	4385	16.0	35.9	369	105	1234	44	52
	6	10579	49.0	1828	1828	20.1	3720	3004	14.8	14.3	173	59	876	33	41
	4	5989	47.8	996	996	19.1	2034	1615	13.0	5.7	81	40	516	21	29
	2	2389	45.3	306	306	19.1	585	458	13.1	2.7	44	43	226	16	24
2750	10	19955	49.2	3585	3585	20.5	7101	5933	16.3	88.4	776	194	1640	52	60
	8	15724	49.2	2780	2780	20.5	5586	4590	16.0	37.2	381	104	1292	44	52
	6	11099	49.0	1914	1914	20.1	3894	3145	14.8	14.7	177	58	916	33	41
	4	6307	48.0	1043	1043	19.1	2130	1691	13.0	5.7	82	38	540	21	29
	2	2518	45.5	322	322	19.1	616	483	13.0	2.7	44	41	237	16	24
2850	10	20849	49.2	3745	3745	20.5	7418	6198	16.3	92.2	809	194	1713	52	60
	8	16434	49.2	2904	2904	20.5	5835	4795	16.0	38.5	392	103	1349	44	52
	6	11617	49.1	1999	1999	20.1	4068	3285	14.8	15.0	180	56	957	33	41
	4	6624	48.2	1089	1089	19.1	2226	1767	13.0	5.8	82	37	564	21	29
	2	2649	45.7	338	338	19.1	648	508	13.0	2.7	44	40	247	16	24

Use our calculation tools on our website to easily calculate heat outputs and other technical data with just a few clicks!

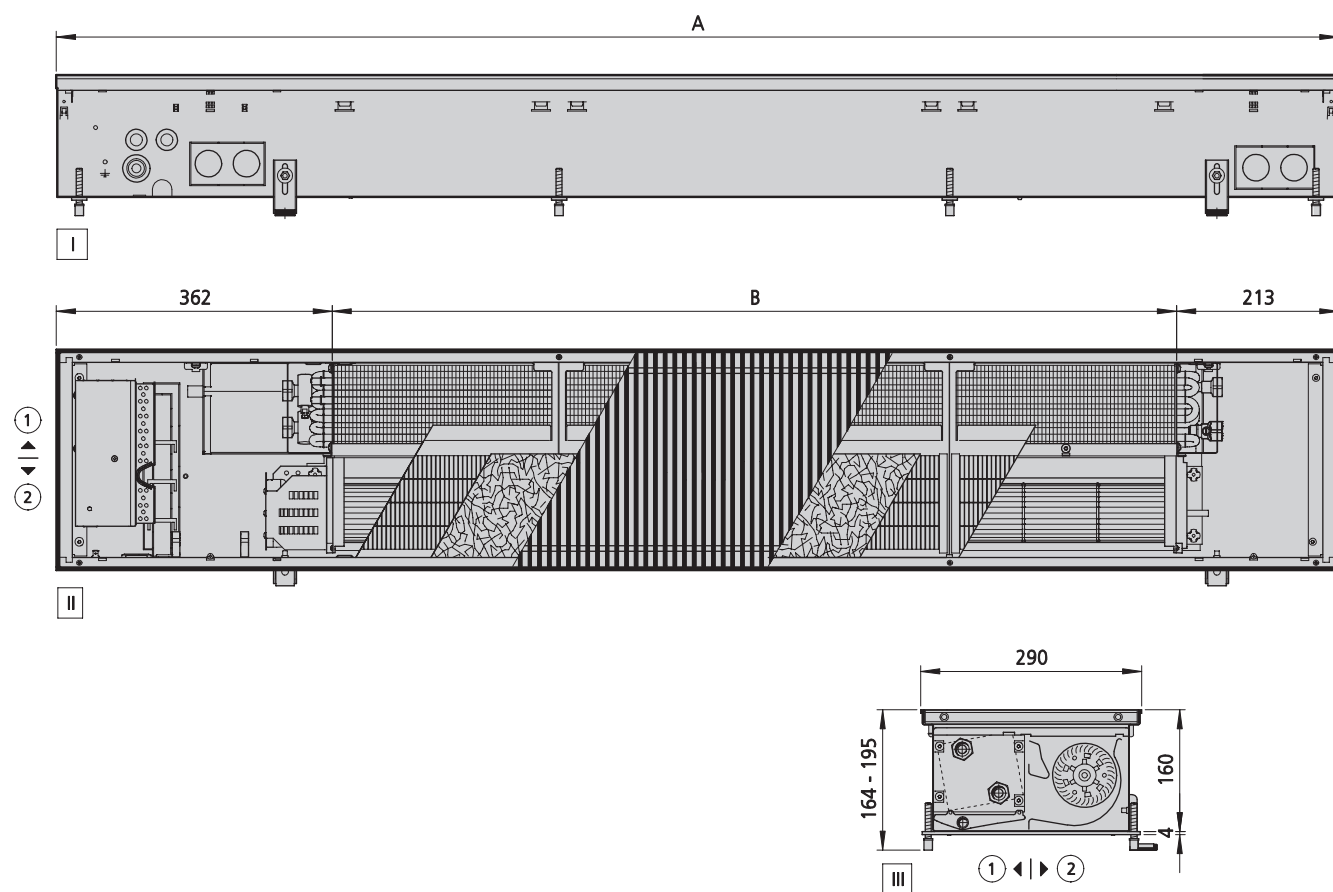
► <https://www.kampmanngroup.com/hvac/products/trench-technology/katherm-hk#Calculate-performance-data>

# Katherm HK

4-pipe

Width 290 mm, Height 160 mm

## Technical drawing (Dimensions in mm)



### View

- I Front view
- II top view (without cover panel)
- III cross-section

### Further information

- ① window side
- ② room side

**Specifications**

Art. no. (**Control option)	Length (A) [mm]	finned length (B) [mm]	Weight [kg]
143494611114**	970	395	18
143494611116**	1070	495	20
143494611118**	1170	595	23
143494611120**	1270	695	25
143494611122**	1370	795	27
143494611124**	1480	905	30
143494611126**	1580	1005	32
143494611128**	1680	1105	34
143494611130**	1780	1205	36
143494611132**	1880	1305	39
143494611134**	1980	1405	41
143494611136**	2080	1505	43
143494611138**	2180	1605	46
143494611140**	2290	1715	48
143494611142**	2390	1815	50
143494611144**	2490	1915	53
143494611146**	2590	2015	55
143494611148**	2690	2115	57
143494611150**	2790	2215	59
143494611152**	2890	2315	62
143494611154**	2990	2415	64

## Performance data

Length <sup>1)</sup>	Control voltage	Heat output <sup>2)</sup>	Outlet air temperature	Cooling output, total <sup>3)</sup>	Cooling output, sensible	Outlet air temperature	Cooling output, total <sup>4)</sup>	Cooling output, sensible	Outlet air temperature	Power consumption <sup>5)</sup>	Current consumption	SFP value	Air flow <sup>6)</sup>	Sound pressure level <sup>7)</sup>	Sound power level
[mm]	[V]	[W]	[°C]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[mA]	[Ws/m³]	[m³/h]	[dB(A)]	[dB(A)]
970	10	2032	37.5	597	597	20.6	1185	990	16.4	21.1	253	272	278	47	55
	8	1604	37.5	466	466	20.6	940	773	16.1	12.3	161	201	219	39	47
	6	1143	37.6	329	329	20.0	678	547	14.6	6.9	99	159	155	28	36
	4	836	41.9	201	201	18.4	421	334	11.5	3.8	61	150	92	16	24
	2	432	45.8	88	88	16.7	177	139	9.0	2.4	41	214	40	11	19
1070	10	2567	37.5	753	753	20.6	1493	1247	16.5	23.5	273	241	351	48	56
	8	2026	37.5	585	585	20.6	1178	968	16.2	13.3	171	174	277	40	48
	6	1443	37.6	408	408	20.1	835	674	14.8	7.3	104	133	196	29	37
	4	1056	41.9	241	241	18.7	502	398	12.1	3.9	63	123	116	17	25
	2	545	45.8	106	106	17.0	213	167	9.4	2.4	42	171	51	12	20
1170	10	3102	37.5	910	910	20.6	1802	1506	16.5	26.1	294	221	425	48	56
	8	2448	37.5	706	706	20.7	1419	1166	16.2	14.5	182	156	334	40	48
	6	1744	37.6	488	488	20.1	997	805	14.9	7.7	108	116	237	29	37
	4	1276	41.9	281	281	18.9	583	463	12.5	4.1	64	104	140	17	25
	2	659	45.8	122	122	17.3	246	193	9.9	2.4	42	143	61	12	20
1270	10	3636	37.5	1066	1066	20.6	2113	1765	16.5	28.9	317	209	498	48	56
	8	2870	37.5	827	827	20.7	1662	1366	16.2	15.7	192	144	392	40	48
	6	2045	37.6	571	571	20.2	1163	939	15.0	8.1	112	105	278	29	37
	4	1496	41.9	322	322	19.0	666	529	12.7	4.2	65	92	164	17	25
	2	772	45.8	137	137	17.5	277	217	10.2	2.4	42	123	72	12	20
1370	10	4171	37.5	1223	1223	20.6	2423	2025	16.5	31.9	340	201	571	48	56
	8	3292	37.5	949	949	20.7	1906	1567	16.2	16.9	203	135	450	40	48
	6	2345	37.6	654	654	20.2	1331	1075	15.0	8.5	117	96	319	29	37
	4	1716	41.9	364	364	19.1	751	596	12.9	4.3	67	82	188	17	25
	2	886	45.8	151	151	17.7	307	240	10.5	2.5	43	108	82	12	20
1480	10	4599	37.5	1349	1349	20.6	2672	2232	16.5	34.4	360	197	630	50	58
	8	3630	37.5	1046	1046	20.7	2102	1727	16.2	17.9	212	130	496	42	50
	6	2586	37.6	720	720	20.2	1465	1183	15.0	8.9	120	91	352	31	39
	4	1892	41.9	393	393	19.2	802	637	13.1	4.4	68	76	207	19	27
	2	977	45.8	129	129	18.9	253	198	12.6	2.5	43	98	91	14	22
1580	10	5134	37.5	1506	1506	20.6	2982	2492	16.5	37.7	385	193	703	50	58
	8	4052	37.5	1168	1168	20.7	2346	1928	16.2	19.2	224	125	554	42	50
	6	2887	37.6	804	804	20.2	1635	1321	15.0	9.3	124	85	393	31	39
	4	2112	41.9	438	438	19.2	896	711	13.1	4.5	69	70	231	19	27
	2	1090	45.8	144	144	18.9	282	221	12.6	2.5	43	89	101	14	22
1680	10	5668	37.5	1662	1662	20.6	3293	2751	16.5	41.2	412	191	776	50	58
	8	4474	37.5	1289	1289	20.7	2590	2129	16.2	20.6	235	121	611	42	50
	6	3187	37.6	887	887	20.2	1806	1458	15.0	9.8	129	81	434	31	39
	4	2332	41.9	484	484	19.2	989	785	13.1	4.6	70	65	255	19	27
	2	1204	45.8	159	159	18.9	311	244	12.6	2.5	43	81	112	14	22
1780	10	6203	37.5	1819	1819	20.6	3604	3011	16.5	44.8	439	190	849	50	58
	8	4896	37.5	1411	1411	20.7	2835	2330	16.2	22.0	247	118	669	42	50
	6	3488	37.6	971	971	20.2	1976	1596	15.0	10.2	133	77	475	31	39
	4	2552	41.9	530	530	19.2	1082	859	13.1	4.7	72	61	279	19	27
	2	1318	45.8	175	175	18.9	341	267	12.6	2.5	43	74	123	14	22
1880	10	6738	37.5	1976	1976	20.6	3915	3270	16.5	48.6	467	190	923	50	58
	8	5318	37.5	1533	1533	20.7	3079	2530	16.2	23.4	259	116	727	42	50
	6	3789	37.6	1055	1055	20.2	2146	1733	15.0	10.6	138	74	515	31	39
	4	2772	41.9	575	575	19.2	1176	933	13.1	4.8	73	57	304	19	27
	2	1431	45.8	190	190	18.9	370	290	12.6	2.6	44	69	133	14	22

CONTINUED ►

<sup>1)</sup> Versions with roll-up grille, Katherm HK with linear grille are available on request!

<sup>2)</sup> at LPHW 75/65 °C,  $t_{l1} = 20$  °C

<sup>3)</sup> at CHW 16/18,  $t_{l1} = 27$  °C, 48% relative humidity

<sup>4)</sup> at CHW 7/12 °C,  $t_{l1} = 27$  °C, 48% relative humidity

<sup>5)</sup> Add an additional power consumption of 1 W per thermoelectric actuator.

<sup>6)</sup> Values rounded up within the measurement tolerances.

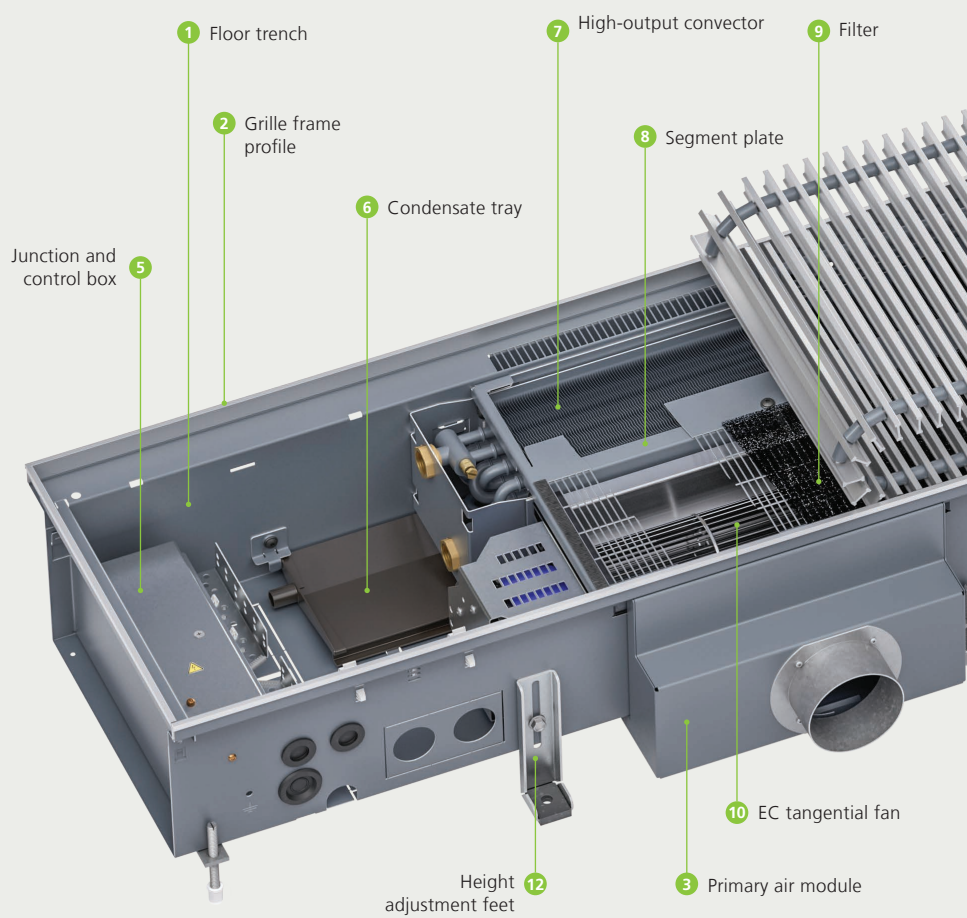
<sup>7)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081) Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

Length <sup>1)</sup>	Control voltage	Heat output <sup>2)</sup>	Outlet air temperature	Cooling output, total <sup>3)</sup>	Cooling output, sensible	Outlet air temperature	Cooling output, total <sup>4)</sup>	Cooling output, sensible	Outlet air temperature	Power consumption <sup>5)</sup>	Current consumption	SFP value	Air flow <sup>6)</sup>	Sound pressure level <sup>7)</sup>	Sound power level
[mm]	[V]	[W]	[°C]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[mA]	[Ws/m²]	[m³/h]	[dB(A)]	[dB(A)]
1980	10	7273	37.5	2133	2133	20.6	4225	3530	16.5	52.5	496	190	996	50	58
	8	5740	37.5	1654	1654	20.7	3324	2731	16.2	24.8	272	114	784	42	50
	6	4090	37.6	1139	1139	20.2	2317	1871	15.0	11.1	142	72	556	31	39
	4	2992	41.9	621	621	19.2	1269	1007	13.1	4.9	74	54	328	19	27
	2	1545	45.8	205	205	18.9	399	313	12.6	2.6	44	64	144	14	22
2080	10	7807	37.5	2290	2290	20.6	4536	3789	16.5	56.5	526	190	1069	50	58
	8	6162	37.5	1776	1776	20.7	3568	2932	16.2	26.3	284	112	842	42	50
	6	4390	37.6	1222	1222	20.2	2487	2009	15.0	11.5	146	69	597	31	39
	4	3212	41.9	666	666	19.2	1362	1081	13.1	5.0	75	52	352	19	27
	2	1658	45.8	220	220	18.9	429	336	12.6	2.6	44	60	154	14	22
2180	10	8342	37.5	2447	2447	20.6	4847	4049	16.5	60.5	557	191	1142	50	58
	8	6584	37.5	1897	1897	20.7	3812	3133	16.2	27.7	297	111	900	42	50
	6	4691	37.6	1306	1306	20.2	2658	2146	15.0	12.0	151	67	638	31	39
	4	3432	41.9	712	712	19.2	1455	1155	13.1	5.1	76	49	376	19	27
	2	1772	45.8	235	235	18.9	458	359	12.6	2.6	44	57	165	14	22
2290	10	8770	37.5	2572	2572	20.6	5095	4257	16.5	63.8	582	191	1201	52	60
	8	6922	37.5	1995	1995	20.7	4008	3294	16.2	28.9	307	110	946	44	52
	6	4932	37.6	1373	1373	20.2	2793	2256	15.0	12.3	154	66	671	33	41
	4	3608	41.9	745	745	19.3	1519	1206	13.2	5.2	77	48	395	21	29
	2	1863	45.8	220	220	19.4	419	328	13.4	2.6	44	54	173	16	24
2390	10	9305	37.5	2729	2729	20.6	5406	4516	16.5	68.0	613	192	1274	52	60
	8	7344	37.5	2116	2116	20.7	4252	3494	16.2	30.3	319	109	1003	44	52
	6	5232	37.6	1457	1457	20.2	2964	2394	15.0	12.7	158	64	712	33	41
	4	3828	41.9	792	792	19.2	1614	1282	13.2	5.3	78	46	419	21	29
	2	1976	45.8	235	235	19.3	449	352	13.4	2.6	44	52	184	16	24
2490	10	9839	37.5	2886	2886	20.6	5716	4776	16.5	72.2	646	193	1347	52	60
	8	7766	37.5	2238	2238	20.7	4497	3695	16.2	31.8	332	108	1061	44	52
	6	5533	37.6	1540	1540	20.2	3134	2531	15.0	13.1	162	63	753	33	41
	4	4048	41.9	838	838	19.2	1710	1357	13.2	5.4	79	44	443	21	29
	2	2090	45.8	251	251	19.3	479	375	13.3	2.6	44	49	194	16	24
2590	10	10374	37.5	3042	3042	20.6	6027	5035	16.5	76.3	678	193	1420	52	60
	8	8188	37.5	2360	2360	20.7	4741	3896	16.2	33.2	344	107	1119	44	52
	6	5834	37.6	1624	1624	20.2	3305	2669	15.0	13.5	166	61	794	33	41
	4	4268	41.9	884	884	19.2	1804	1432	13.2	5.5	80	42	467	21	29
	2	2204	45.8	267	267	19.3	510	399	13.3	2.7	44	47	205	16	24
2690	10	10909	37.5	3199	3199	20.6	6338	5295	16.5	80.4	711	194	1494	52	60
	8	8610	37.5	2481	2481	20.7	4985	4097	16.2	34.6	357	106	1176	44	52
	6	6134	37.6	1708	1708	20.2	3475	2807	15.0	13.9	170	60	835	33	41
	4	4488	41.9	930	930	19.2	1899	1507	13.2	5.6	80	41	491	21	29
	2	2317	45.8	283	283	19.2	540	423	13.2	2.7	44	45	216	16	24
2790	10	11444	37.5	3356	3356	20.6	6648	5554	16.5	84.5	744	194	1567	52	60
	8	9032	37.5	2603	2603	20.7	5230	4298	16.2	35.9	369	105	1234	44	52
	6	6435	37.6	1792	1792	20.2	3646	2944	15.0	14.3	173	59	876	33	41
	4	4708	41.9	976	976	19.2	1993	1582	13.1	5.7	81	40	516	21	29
	2	2431	45.8	299	299	19.2	571	447	13.2	2.7	44	43	226	16	24
2890	10	11978	37.5	3513	3513	20.6	6959	5814	16.5	88.4	776	194	1640	52	60
	8	9454	37.5	2725	2725	20.7	5474	4499	16.2	37.2	381	104	1292	44	52
	6	6736	37.6	1875	1875	20.2	3816	3082	15.0	14.7	177	58	916	33	41
	4	4928	41.9	1022	1022	19.2	2087	1657	13.1	5.7	82	38	540	21	29
	2	2544	45.8	315	315	19.2	602	472	13.2	2.7	44	41	237	16	24
2990	10	12513	37.5	3670	3670	20.6	7270	6074	16.5	92.2	809	194	1713	52	60
	8	9876	37.5	2846	2846	20.7	5718	4699	16.2	38.5	392	103	1349	44	52
	6	7036	37.6	1959	1959	20.2	3986	3219	15.0	15.0	180	56	957	33	41
	4	5148	41.9	1068	1068	19.2	2181	1731	13.1	5.8	82	37	564	21	29
	2	2658	45.8	331	331	19.2	633	496	13.1	2.7	44	40	247	16	24

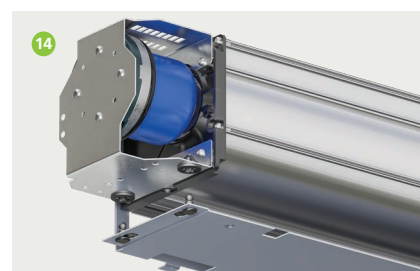
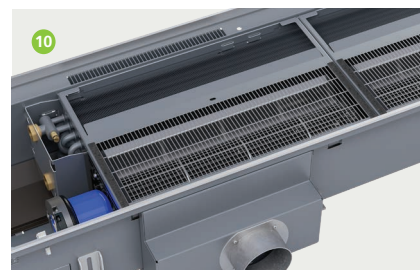
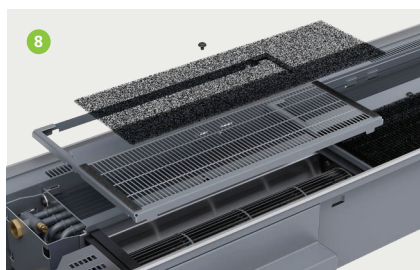
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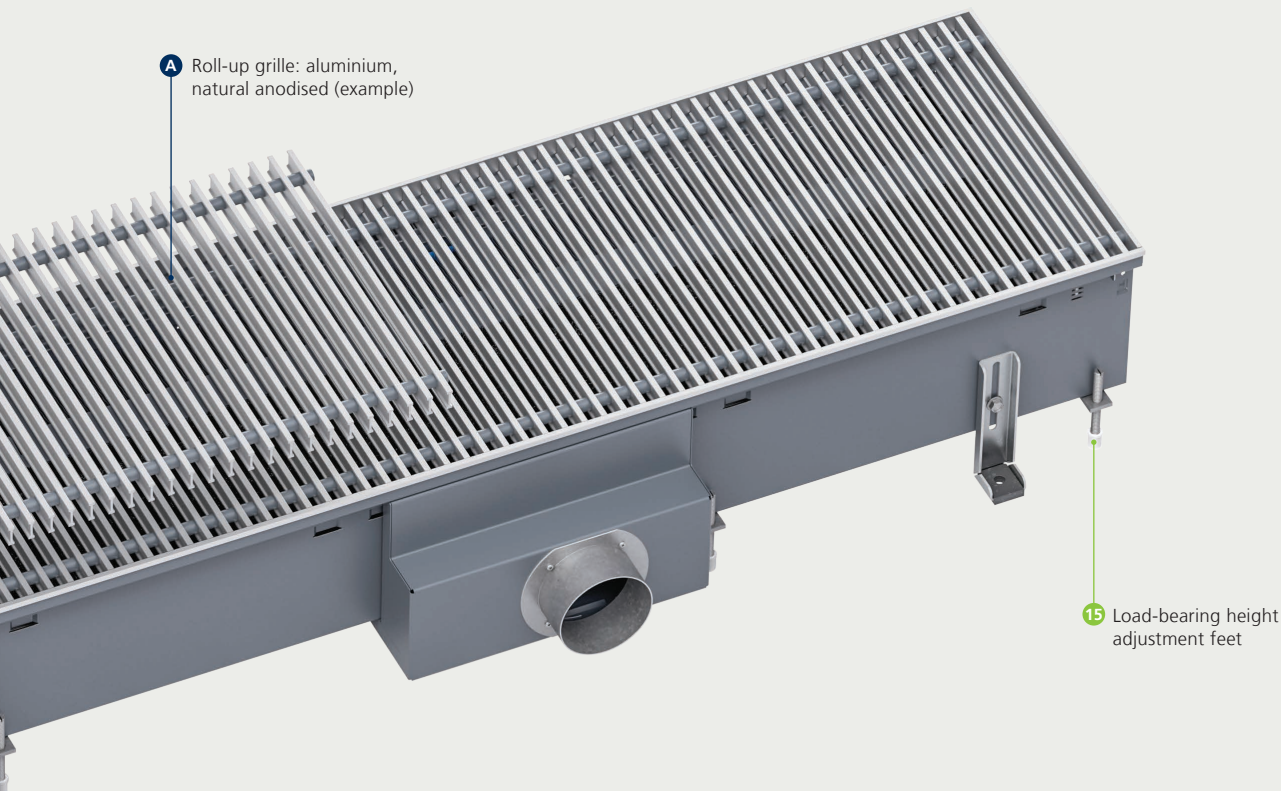
► <https://www.kampmanngroup.com/hvac/products/trench-technology/katherm-hk#Calculate-performance-data>

## Katherm HK P at a glance



## Features





#### 1 Floor trench:

- › modular design for 2-pipe and 4-pipe systems
- › prepared for connection, output and expansion module
- › made of sendzimir galvanised sheet steel, painted graphite-grey
- › with pre-punched connection openings for heat exchanger and electrical connection

#### 2 Grille frame profile:

- › to match the colour of the double T-profile grille
- › with protective lip on 3 sides

#### 3 Primary air module:

- › to supply prepared fresh air (primary air)
- › Primary air module with supply air spigot DN 80 for slow and low-turbulence leaving air velocity.

#### 4 Connection module:

- › contains all building services interfaces on one connection side
- › easy and time-saving installation
- › with junction and control box, EC fan motor; heat exchanger connection, as well as condensate connection with optional condensate pump

#### 5 Junction and control box:

- › ready-wired, for fast and safe electrical connection, saves installation time
- › KaControl MC or electromechanical control
- › with integrated cable duct for clean, safe cable laying

#### 6 Condensate tray:

- › for safe condensate drainage
- › specifically designed for ease of cleaning in line with the Hygiene Directive VDI 6022
- › can be removed to the room side for ease of cleaning

#### 7 High-output convector:

- › made of copper/aluminium, painted graphite-grey
- › suitable for max. continuous operating pressure of 10 bar and 120 °C
- › connection female thread features anti-torsion device; doubles as splash guard

#### 8 Segment plate:

- › acts as a finger guard for the tangential fan, filter mounting frame, air guide plate, grille seat and reinforcing braces to strengthen the trench

#### 9 Filter:

- › optional accessory

#### 10 EC tangential fan:

- › with high-output, noise-optimised EC fan motor
- › as a continuous fan strip with flow-optimised impellers, cascaded by an innovative coupling system
- › produces a uniform air flow through the convector
- › continuously variable fan speed control via 0–10 V signal, motor monitoring with internal fault processing

#### 11 Cover plate:

- › as visual protection and protection from dirt
- › for connection and expansion module
- › secured with locking screws

#### 12 Height adjustment feet:

- › for the secure mounting of the trench
- › with sound insulation

#### 13 Condensate pump mounting kit:

- › to drain condensate
- › supplied separately or factory-fitted; directly wired in the electrical junction box
- › with quiet condensate pump in compact housing, with connecting bracket
- › plug-in power supply and error message

#### 14 Attachment of tangential fan:

- › ease of removal of the tangential fan without a tool
- › innovative combined coupling/ball joint system
- › simultaneous acoustic decoupling

#### 15 Load-bearing height adjustment feet:

- › for height adjustment and support of the trench
- › with soundproofing cap

#### A Aluminium roll-up grille, natural, anodised (example):

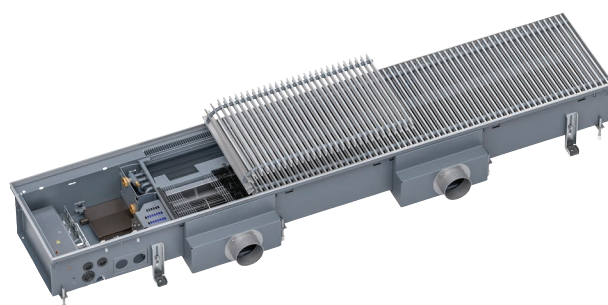
- › grille bar dimensions 18 x 5 mm
- › connections made of corrosion-proof steel springs with spacers in a matching colour
- › wfree cross-section approx. 70%

# Product data



## Product benefits

- ▶ Effective heating and cooling with the additional introduction of treated primary air
- ▶ Heat and cooling outputs tested independently in accordance with the DIN EN 16430 test standard
- ▶ Hygiene-compliant and simple to clean in accordance with VDI 6022
- ▶ Short-circuit-optimised air outlet flow for even temperature distribution and excellent comfort
- ▶ Cascaded EC tangential fans for continuous heat exchanger flow
- ▶ Low noise level due to sound-decoupled tangential fans
- ▶ Life Cycle Assessment data published in the form of an EPD according to EN 15804 and available to download from the International EPD System. Registered in the DGNB Navigator construction product platform.
- ▶ Life Cycle Assessment data published in the form of an EPD according to EN 15804 and available to download from the International EPD System. Registered in the DGNB Navigator construction product platform.



## Features

- ▶ Primary air modules for low-turbulence supply of fresh air at low leaving air velocity
- ▶ Modular parametric design with connection, power and expansion module
- ▶ Sound-decoupled tangential fan fixing, easy removal without tools
- ▶ Connection and control box for fast electrical connection
- ▶ Continuous string of tangential fans due to innovative coupling system
- ▶ Condensate pump kit with quiet and continuously variable controlled condensate pump

<b>Convection</b>	▶ EC tangential fan
<b>Heating</b>	▶ LPHW
<b>Cooling</b>	▶ CHW
<b>Ventilation</b>	▶ Optionally by supply-air modules or air supply ducts
<b>KaControl</b>	▶ Optional

## Performance data

**Heat output [W]<sup>1)</sup>** ▶ 432 – 20849

**Cooling output [W]<sup>2)</sup>** ▶ 88 – 3745

**Sound pressure level [dB(A)]<sup>3)</sup>** ▶ 11 – 52

**Sound power level [dB(A)]** ▶ 19 – 60

<sup>1)</sup> at LPHW 75/65 °C,  $t_{l1} = 20$  °C

<sup>2)</sup> at CHW 16/18,  $t_{l1} = 27$  °C, 48% relative humidity

<sup>3)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m<sup>3</sup> and a reverberation time of 0.5 s (in accordance with VDI 2081)

### Operating limits

- ▶ Max. operating pressure: 10 bar
- ▶ Max. entering water temperature: 95 °C
- ▶ Min. entering water temperature: 5 °C
- ▶ Max. air inlet temp.: 40 °C
- ▶ Max. glycol volume: 50 %

## Applications

Buildings of all kinds, in which there is a high cooling load due to internal loads and the effects of sunlight. Experience has shown that Katherm HK can provide low-cost, effective cooling with low, non-disruptive sound levels.



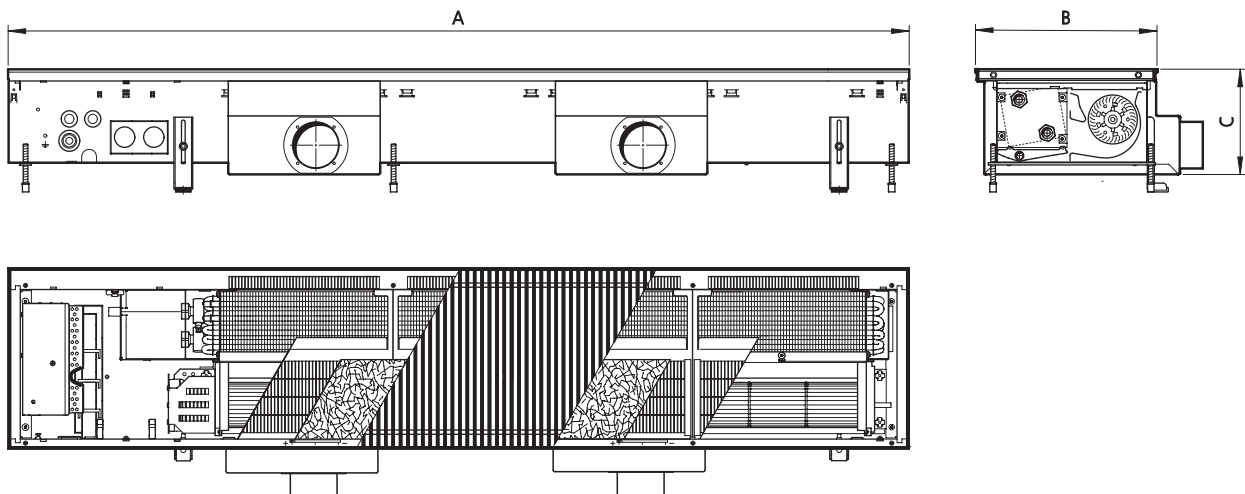
## Selection guide Katherm HK P

Length (A) [mm]	Width (B) [mm]	Height (C) [mm]	System			
			2-pipe		4-pipe	
			Heat output <sup>1)</sup> [W]	Cooling output <sup>2)</sup> [W]	Heat output <sup>1)</sup> [W]	Cooling output <sup>2)</sup> [W]
830 – 2990	310	180	892 – 20849	90 – 3745	432 – 12513	88 – 3670

<sup>1)</sup> at LPHW 75/65 °C,  $t_{L1} = 20$  °C, with fan coils

<sup>2)</sup> with CHW 16/18 °C,  $t_{L1} = 27$  °C, 48% rel. humidity, with fan coils

### Technical drawing (Dimensions in mm)

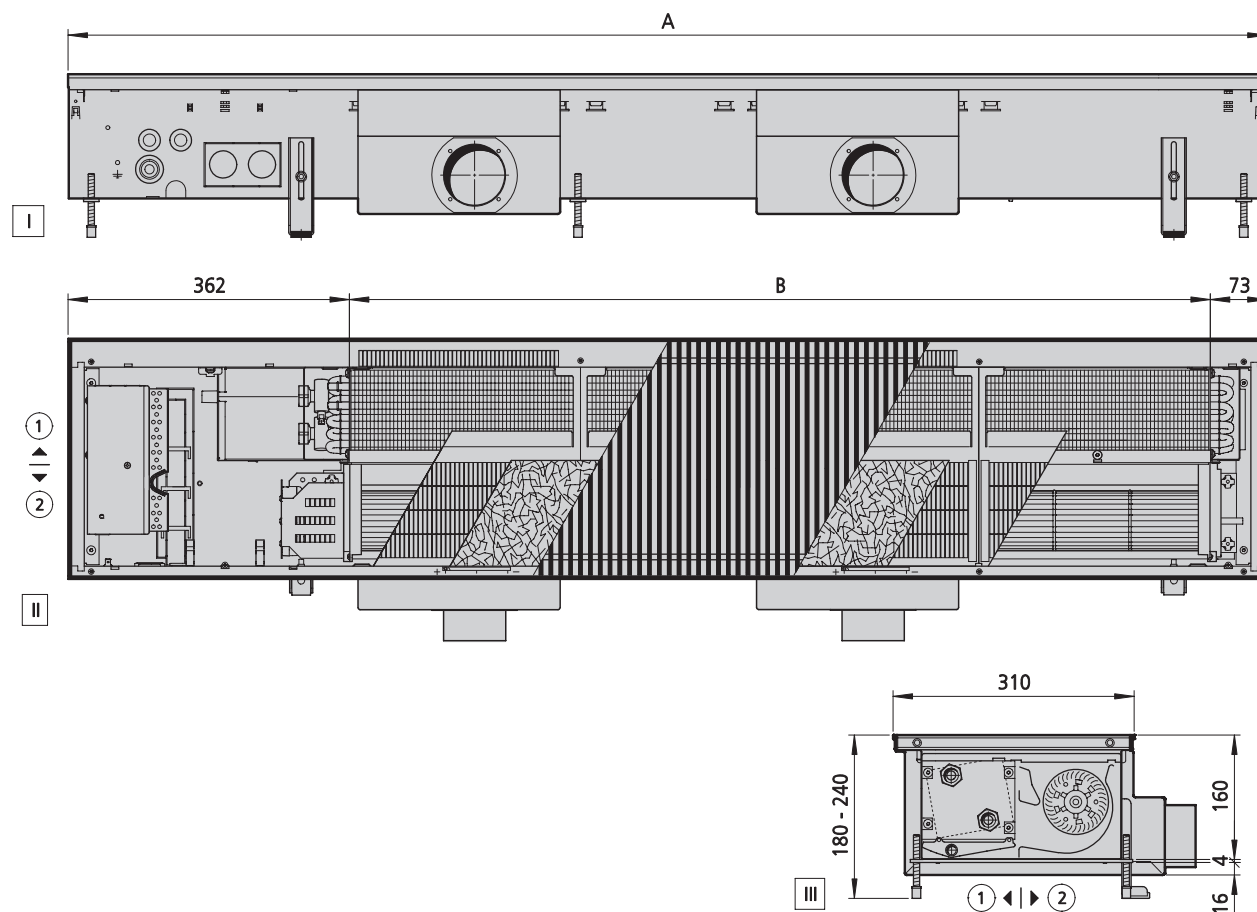


# Katherm HK P

2-pipe

Width 310 mm, Height 180 mm

Technical drawing (Dimensions in mm)



## View

- I Front view
- II top view (without cover panel)
- III cross-section

## Further information

- 1 window side
- 2 room side

**Specifications**

Art. no. (**Control option)	Length (A) [mm]	finned length (B) [mm]	Weight [kg]
143612611111XX	830	395	17
143612611113XX	930	495	20
143612611115XX	1030	595	22
143612611117XX	1130	695	24
143612611119XX	1230	795	27
143612611121XX	1340	905	29
143612611123XX	1440	1005	31
143612611125XX	1540	1105	34
143612611127XX	1640	1205	36
143612611129XX	1740	1305	38
143612611131XX	1840	1405	41
143612611133XX	1940	1505	43
143612611135XX	2040	1605	46
143612611138XX	2150	1715	48
143612611140XX	2250	1815	50
143612611142XX	2350	1915	53
143612611144XX	2450	2015	55
143612611146XX	2550	2115	57
143612611148XX	2650	2215	60
143612611150XX	2750	2315	62
143612611152XX	2850	2415	65

## Performance data

Length <sup>1)</sup>	Control voltage	Heat output <sup>2)</sup>	Outlet air temperature	Cooling output, total <sup>3)</sup>	Cooling output, sensible	Outlet air temperature	Cooling output, total <sup>4)</sup>	Cooling output, sensible	Outlet air temperature	Power consumption <sup>5)</sup>	Current consumption	SFP value	Air flow <sup>6)</sup>	Sound pressure level <sup>7)</sup>	Sound power level
[mm]	[V]	[W]	[°C]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[mA]	[Ws/m³]	[m³/h]	[dB(A)]	[dB(A)]
830	10	3857	53.2	609	609	20.5	1209	1010	16.2	21.1	253	272	278	47	55
	8	3236	55.4	475	475	20.5	958	787	15.9	12.3	161	201	219	39	47
	6	2532	59.0	335	335	19.9	689	557	14.4	6.9	99	159	155	28	36
	4	1718	65.0	204	204	18.3	427	339	11.3	3.8	61	150	92	16	24
	2	892	73.2	90	90	16.6	180	141	8.8	2.4	41	214	40	11	19
930	10	4631	51.6	768	768	20.5	1523	1272	16.3	23.5	273	241	351	48	56
	8	3848	53.3	597	597	20.5	1201	987	16.0	13.3	171	174	277	40	48
	6	2997	56.6	415	415	20.0	850	687	14.6	7.3	104	133	196	29	37
	4	2052	62.5	245	245	18.6	509	404	11.9	3.9	63	123	116	17	25
	2	1091	71.5	108	108	16.9	217	170	9.3	2.4	42	171	51	12	20
1030	10	5423	50.6	928	928	20.5	1839	1536	16.3	26.1	294	221	425	48	56
	8	4458	51.9	720	720	20.5	1448	1190	16.0	14.5	182	156	334	40	48
	6	3441	54.7	498	498	20.0	1017	821	14.7	7.7	108	116	237	29	37
	4	2360	60.5	286	286	18.8	593	470	12.3	4.1	64	104	140	17	25
	2	1277	69.9	124	124	17.2	250	196	9.7	2.4	42	143	61	12	20
1130	10	6238	50.0	1088	1088	20.5	2156	1801	16.3	28.9	317	209	498	48	56
	8	5078	51.0	844	844	20.5	1696	1394	16.0	15.7	192	144	392	40	48
	6	3875	53.4	582	582	20.0	1186	958	14.8	8.1	112	105	278	29	37
	4	2649	58.7	328	328	18.9	678	538	12.5	4.2	65	92	164	17	25
	2	1454	68.5	139	139	17.4	281	220	10.1	2.4	42	123	72	12	20
1230	10	7072	49.7	1248	1248	20.5	2473	2066	16.3	31.9	340	201	571	48	56
	8	5711	50.4	968	968	20.5	1945	1599	16.0	16.9	203	135	450	40	48
	6	4309	52.4	667	667	20.0	1358	1097	14.8	8.5	117	96	319	29	37
	4	2924	57.3	371	371	19.0	765	607	12.7	4.3	67	82	188	17	25
	2	1621	67.1	154	154	17.6	311	244	10.4	2.5	43	108	82	12	20
1340	10	7665	49.2	1376	1376	20.5	2726	2278	16.3	34.4	360	197	630	50	58
	8	6050	49.2	1067	1067	20.5	2145	1762	16.0	17.9	212	130	496	42	50
	6	4310	49.3	735	735	20.1	1495	1207	14.8	8.9	120	91	352	31	39
	4	2563	49.6	401	401	19.1	819	650	13.0	4.4	68	76	207	19	27
	2	1159	50.6	132	132	18.8	258	202	12.5	2.5	43	98	91	14	22
1440	10	8556	49.2	1536	1536	20.5	3043	2543	16.3	37.7	385	193	703	50	58
	8	6753	49.2	1191	1191	20.5	2394	1967	16.0	19.2	224	125	554	42	50
	6	4811	49.3	820	820	20.1	1669	1348	14.8	9.3	124	85	393	31	39
	4	2861	49.6	447	447	19.1	914	726	13.0	4.5	69	70	231	19	27
	2	1294	50.6	147	147	18.8	288	225	12.5	2.5	43	89	101	14	22
1540	10	9447	49.2	1696	1696	20.5	3360	2807	16.3	41.2	412	191	776	50	58
	8	7457	49.2	1316	1316	20.5	2643	2172	16.0	20.6	235	121	611	42	50
	6	5312	49.3	906	906	20.1	1843	1488	14.8	9.8	129	81	434	31	39
	4	3159	49.6	494	494	19.1	1009	801	13.0	4.6	70	65	255	19	27
	2	1429	50.6	163	163	18.8	318	249	12.5	2.5	43	81	112	14	22
1640	10	10338	49.2	1856	1856	20.5	3677	3072	16.3	44.8	439	190	849	50	58
	8	8160	49.2	1440	1440	20.5	2893	2377	16.0	22.0	247	118	669	42	50
	6	5814	49.3	991	991	20.1	2016	1628	14.8	10.2	133	77	475	31	39
	4	3458	49.6	540	540	19.1	1104	877	13.0	4.7	72	61	279	19	27
	2	1563	50.6	178	178	18.8	348	272	12.5	2.5	43	74	123	14	22
1740	10	11230	49.2	2016	2016	20.5	3994	3337	16.3	48.6	467	190	923	50	58
	8	8863	49.2	1564	1564	20.5	3142	2582	16.0	23.4	259	116	727	42	50
	6	6315	49.3	1076	1076	20.1	2190	1769	14.8	10.6	138	74	515	31	39
	4	3756	49.6	587	587	19.1	1200	952	13.0	4.8	73	57	304	19	27
	2	1698	50.6	193	193	18.8	378	296	12.5	2.6	44	69	133	14	22

CONTINUED ►

<sup>1)</sup> Versions with roll-up grille, Katherm HK with linear grille are available on request!

<sup>2)</sup> at LPHW 75/65 °C,  $t_{l1} = 20$  °C

<sup>3)</sup> at CHW 16/18,  $t_{l1} = 27$  °C, 48% relative humidity

<sup>4)</sup> at CHW 7/12 °C,  $t_{l1} = 27$  °C, 48% relative humidity

<sup>5)</sup> Add an additional power consumption of 1 W per thermoelectric actuator.

<sup>6)</sup> Values rounded up within the measurement tolerances.

<sup>7)</sup> The sound pressure levels were calculated 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 (in accordance with VDI 2081) Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

Length <sup>1)</sup>	Control voltage	Heat output <sup>2)</sup>	Outlet air temperature	Cooling output, total <sup>3)</sup>	Cooling output, sensible	Outlet air temperature	Cooling output, total <sup>4)</sup>	Cooling output, sensible	Outlet air temperature	Power consumption <sup>5)</sup>	Current consumption	SFP value	Air flow <sup>6)</sup>	Sound pressure level <sup>7)</sup>	Sound power level
[mm]	[V]	[W]	[°C]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[mA]	[Ws/m²]	[m³/h]	[dB(A)]	[dB(A)]
1840	10	12121	49.2	2176	2176	20.5	4311	3602	16.3	52.5	496	190	996	50	58
	8	9567	49.2	1688	1688	20.5	3391	2787	16.0	24.8	272	114	784	42	50
	6	6816	49.3	1162	1162	20.1	2364	1909	14.8	11.1	142	72	556	31	39
	4	4054	49.6	633	633	19.1	1295	1028	13.0	4.9	74	54	328	19	27
	2	1833	50.6	209	209	18.8	408	319	12.5	2.6	44	64	144	14	22
1940	10	13012	49.2	2336	2336	20.5	4628	3867	16.3	56.5	526	190	1069	50	58
	8	10270	49.2	1812	1812	20.5	3641	2992	16.0	26.3	284	112	842	42	50
	6	7317	49.3	1247	1247	20.1	2538	2050	14.8	11.5	146	69	597	31	39
	4	4352	49.6	680	680	19.1	1390	1103	13.0	5.0	75	52	352	19	27
	2	1968	50.6	224	224	18.8	438	343	12.5	2.6	44	60	154	14	22
2040	10	13903	49.2	2496	2496	20.5	4945	4132	16.3	60.5	557	191	1142	50	58
	8	10974	49.2	1936	1936	20.5	3890	3197	16.0	27.7	297	111	900	42	50
	6	7818	49.3	1333	1333	20.1	2712	2190	14.8	12.0	151	67	638	31	39
	4	4650	49.6	727	727	19.1	1485	1179	13.0	5.1	76	49	376	19	27
	2	2103	50.6	239	239	18.8	468	366	12.5	2.6	44	57	165	14	22
2150	10	14569	49.1	2624	2624	20.5	5199	4344	16.3	63.8	582	191	1201	52	60
	8	11420	48.9	2035	2035	20.5	4090	3361	16.0	28.9	307	110	946	44	52
	6	7948	48.4	1401	1401	20.1	2850	2302	14.8	12.3	154	66	671	33	41
	4	4412	46.8	761	761	19.1	1551	1231	13.0	5.2	77	48	395	21	29
	2	1759	44.3	225	225	19.3	429	336	13.3	2.6	44	54	173	16	24
2250	10	15472	49.1	2785	2785	20.5	5516	4608	16.3	68.0	613	192	1274	52	60
	8	12145	49.0	2160	2160	20.5	4339	3566	16.0	30.3	319	109	1003	44	52
	6	8479	48.5	1486	1486	20.1	3024	2443	14.8	12.7	158	64	712	33	41
	4	4725	47.0	808	808	19.1	1648	1308	13.0	5.3	78	46	419	21	29
	2	1882	44.5	241	241	19.2	460	360	13.2	2.6	44	52	184	16	24
2350	10	16372	49.1	2945	2945	20.5	5833	4873	16.3	72.2	646	193	1347	52	60
	8	12866	49.1	2284	2284	20.5	4588	3771	16.0	31.8	332	108	1061	44	52
	6	9007	48.7	1572	1572	20.1	3198	2583	14.8	13.1	162	63	753	33	41
	4	5040	47.2	855	855	19.1	1745	1385	13.0	5.4	79	44	443	21	29
	2	2007	44.7	257	257	19.2	491	384	13.2	2.6	44	49	194	16	24
2450	10	17270	49.1	3105	3105	20.5	6150	5138	16.3	76.3	678	193	1420	52	60
	8	13584	49.1	2408	2408	20.5	4838	3976	16.0	33.2	344	107	1119	44	52
	6	9533	48.8	1657	1657	20.1	3372	2723	14.8	13.5	166	61	794	33	41
	4	5355	47.5	902	902	19.1	1842	1462	13.0	5.5	80	42	467	21	29
	2	2133	44.9	273	273	19.2	522	409	13.1	2.7	44	47	205	16	24
2550	10	18166	49.1	3265	3265	20.5	6467	5403	16.3	80.4	711	194	1494	52	60
	8	14299	49.1	2532	2532	20.5	5087	4181	16.0	34.6	357	106	1176	44	52
	6	10058	48.9	1743	1743	20.1	3546	2864	14.8	13.9	170	60	835	33	41
	4	5672	47.7	949	949	19.1	1938	1538	13.0	5.6	80	41	491	21	29
	2	2260	45.1	289	289	19.2	553	433	13.1	2.7	44	45	216	16	24
2650	10	19061	49.1	3425	3425	20.5	6784	5668	16.3	84.5	744	194	1567	52	60
	8	15013	49.1	2656	2656	20.5	5336	4385	16.0	35.9	369	105	1234	44	52
	6	10579	49.0	1828	1828	20.1	3720	3004	14.8	14.3	173	59	876	33	41
	4	5989	47.8	996	996	19.1	2034	1615	13.0	5.7	81	40	516	21	29
	2	2389	45.3	306	306	19.1	585	458	13.1	2.7	44	43	226	16	24
2750	10	19955	49.2	3585	3585	20.5	7101	5933	16.3	88.4	776	194	1640	52	60
	8	15724	49.2	2780	2780	20.5	5586	4590	16.0	37.2	381	104	1292	44	52
	6	11099	49.0	1914	1914	20.1	3894	3145	14.8	14.7	177	58	916	33	41
	4	6307	48.0	1043	1043	19.1	2130	1691	13.0	5.7	82	38	540	21	29
	2	2518	45.5	322	322	19.1	616	483	13.0	2.7	44	41	237	16	24
2850	10	20849	49.2	3745	3745	20.5	7418	6198	16.3	92.2	809	194	1713	52	60
	8	16434	49.2	2904	2904	20.5	5835	4795	16.0	38.5	392	103	1349	44	52
	6	11617	49.1	1999	1999	20.1	4068	3285	14.8	15.0	180	56	957	33	41
	4	6624	48.2	1089	1089	19.1	2226	1767	13.0	5.8	82	37	564	21	29
	2	2649	45.7	338	338	19.1	648	508	13.0	2.7	44	40	247	16	24

Use our calculation tools on our website to easily calculate heat outputs and other technical data with just a few clicks!

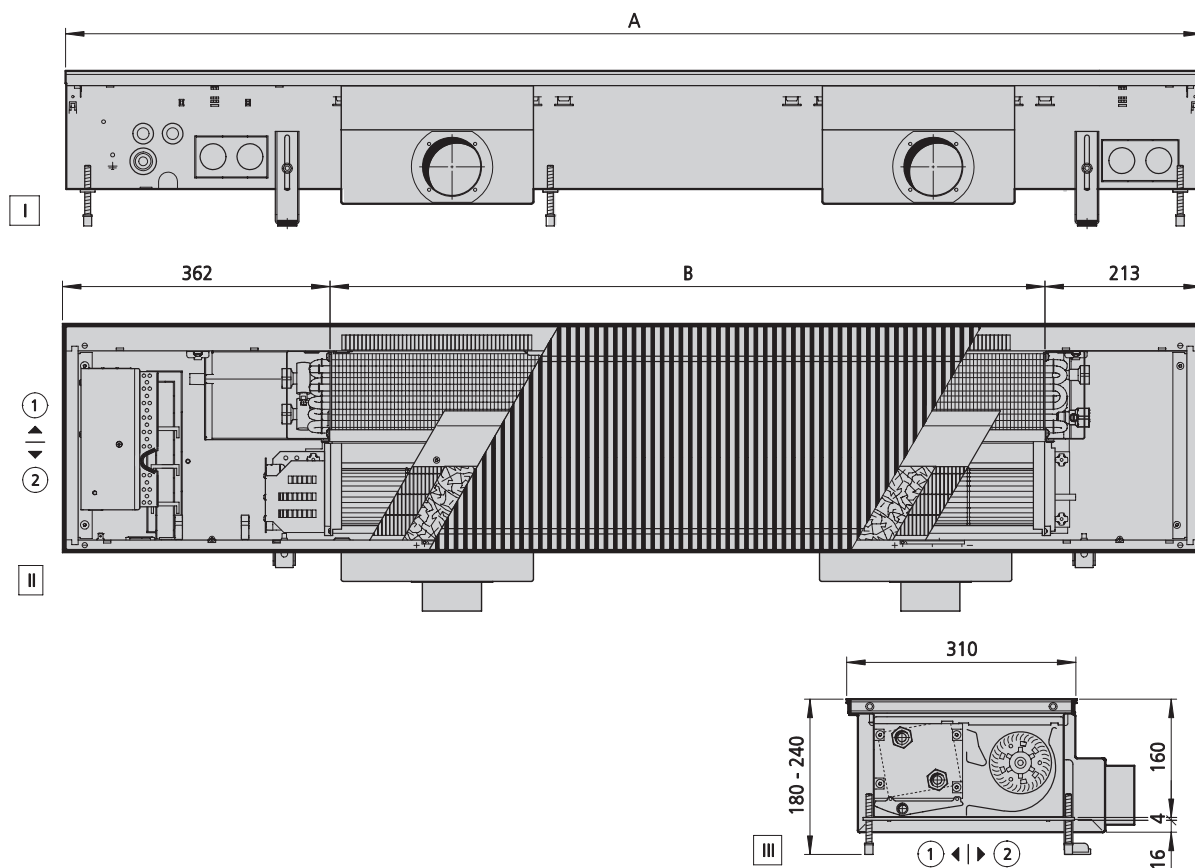
► <https://www.kampmanngroup.com/hvac/products/trench-technology/katherm-hk-p#Calculate-performance-data>

# Katherm HK P

4-pipe

Width 310 mm, Height 180 mm

Technical drawing (Dimensions in mm)



## View

- I Front view
- II top view (without cover panel)
- III cross-section

## Further information

- 1 window side
- 2 room side

**Specifications**

Art. no. (**Control option)	Length (A) [mm]	finned length (B) [mm]	Weight [kg]
143614611114XX	970	395	16
143614611116XX	1070	495	16
143614611118XX	1170	595	16
143614611120XX	1270	695	19
143614611122XX	1370	795	20
143614611124XX	1480	905	17
143614611126XX	1580	1005	20
143614611128XX	1680	1105	22
143614611130XX	1780	1205	19
143614611132XX	1880	1305	23
143614611134XX	1980	1405	23
143614611136XX	2080	1505	24
143614611138XX	2180	1605	20
143614611140XX	2290	1715	23
143614611142XX	2390	1815	25
143614611144XX	2490	1915	21
143614611146XX	2590	2015	25
143614611148XX	2690	2115	27
143614611150XX	2790	2215	23
143614611152XX	2890	2315	26
143614611154XX	2990	2415	29

## Performance data

Length <sup>1)</sup>	Control voltage	Heat output <sup>2)</sup>	Outlet air temperature	Cooling output, total <sup>3)</sup>	Cooling output, sensible	Outlet air temperature	Cooling output, total <sup>4)</sup>	Cooling output, sensible	Outlet air temperature	Power consumption <sup>5)</sup>	Current consumption	SFP value	Air flow <sup>6)</sup>	Sound pressure level <sup>7)</sup>	Sound power level
[mm]	[V]	[W]	[°C]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[mA]	[Ws/m³]	[m³/h]	[dB(A)]	[dB(A)]
970	10	2032	37.5	597	597	20.6	1185	990	16.4	21.1	253	272	278	47	55
	8	1604	37.5	466	466	20.6	940	773	16.1	12.3	161	201	219	39	47
	6	1143	37.6	329	329	20.0	678	547	14.6	6.9	99	159	155	28	36
	4	836	41.9	201	201	18.4	421	334	11.5	3.8	61	150	92	16	24
	2	432	45.8	88	88	16.7	177	139	9.0	2.4	41	214	40	11	19
1070	10	2567	37.5	753	753	20.6	1493	1247	16.5	23.5	273	241	351	48	56
	8	2026	37.5	585	585	20.6	1178	968	16.2	13.3	171	174	277	40	48
	6	1443	37.6	408	408	20.1	835	674	14.8	7.3	104	133	196	29	37
	4	1056	41.9	241	241	18.7	502	398	12.1	3.9	63	123	116	17	25
	2	545	45.8	106	106	17.0	213	167	9.4	2.4	42	171	51	12	20
1170	10	3102	37.5	910	910	20.6	1802	1506	16.5	26.1	294	221	425	48	56
	8	2448	37.5	706	706	20.7	1419	1166	16.2	14.5	182	156	334	40	48
	6	1744	37.6	488	488	20.1	997	805	14.9	7.7	108	116	237	29	37
	4	1276	41.9	281	281	18.9	583	463	12.5	4.1	64	104	140	17	25
	2	659	45.8	122	122	17.3	246	193	9.9	2.4	42	143	61	12	20
1270	10	3636	37.5	1066	1066	20.6	2113	1765	16.5	28.9	317	209	498	48	56
	8	2870	37.5	827	827	20.7	1662	1366	16.2	15.7	192	144	392	40	48
	6	2045	37.6	571	571	20.2	1163	939	15.0	8.1	112	105	278	29	37
	4	1496	41.9	322	322	19.0	666	529	12.7	4.2	65	92	164	17	25
	2	772	45.8	137	137	17.5	277	217	10.2	2.4	42	123	72	12	20
1370	10	4171	37.5	1223	1223	20.6	2423	2025	16.5	31.9	340	201	571	48	56
	8	3292	37.5	949	949	20.7	1906	1567	16.2	16.9	203	135	450	40	48
	6	2345	37.6	654	654	20.2	1331	1075	15.0	8.5	117	96	319	29	37
	4	1716	41.9	364	364	19.1	751	596	12.9	4.3	67	82	188	17	25
	2	886	45.8	151	151	17.7	307	240	10.5	2.5	43	108	82	12	20
1480	10	4599	37.5	1349	1349	20.6	2672	2232	16.5	34.4	360	197	630	50	58
	8	3630	37.5	1046	1046	20.7	2102	1727	16.2	17.9	212	130	496	42	50
	6	2586	37.6	720	720	20.2	1465	1183	15.0	8.9	120	91	352	31	39
	4	1892	41.9	393	393	19.2	802	637	13.1	4.4	68	76	207	19	27
	2	977	45.8	129	129	18.9	253	198	12.6	2.5	43	98	91	14	22
1580	10	5134	37.5	1506	1506	20.6	2982	2492	16.5	37.7	385	193	703	50	58
	8	4052	37.5	1168	1168	20.7	2346	1928	16.2	19.2	224	125	554	42	50
	6	2887	37.6	804	804	20.2	1635	1321	15.0	9.3	124	85	393	31	39
	4	2112	41.9	438	438	19.2	896	711	13.1	4.5	69	70	231	19	27
	2	1090	45.8	144	144	18.9	282	221	12.6	2.5	43	89	101	14	22
1680	10	5668	37.5	1662	1662	20.6	3293	2751	16.5	41.2	412	191	776	50	58
	8	4474	37.5	1289	1289	20.7	2590	2129	16.2	20.6	235	121	611	42	50
	6	3187	37.6	887	887	20.2	1806	1458	15.0	9.8	129	81	434	31	39
	4	2332	41.9	484	484	19.2	989	785	13.1	4.6	70	65	255	19	27
	2	1204	45.8	159	159	18.9	311	244	12.6	2.5	43	81	112	14	22
1780	10	6203	37.5	1819	1819	20.6	3604	3011	16.5	44.8	439	190	849	50	58
	8	4896	37.5	1411	1411	20.7	2835	2330	16.2	22.0	247	118	669	42	50
	6	3488	37.6	971	971	20.2	1976	1596	15.0	10.2	133	77	475	31	39
	4	2552	41.9	530	530	19.2	1082	859	13.1	4.7	72	61	279	19	27
	2	1318	45.8	175	175	18.9	341	267	12.6	2.5	43	74	123	14	22
1880	10	6738	37.5	1976	1976	20.6	3915	3270	16.5	48.6	467	190	923	50	58
	8	5318	37.5	1533	1533	20.7	3079	2530	16.2	23.4	259	116	727	42	50
	6	3789	37.6	1055	1055	20.2	2146	1733	15.0	10.6	138	74	515	31	39
	4	2772	41.9	575	575	19.2	1176	933	13.1	4.8	73	57	304	19	27
	2	1431	45.8	190	190	18.9	370	290	12.6	2.6	44	69	133	14	22

CONTINUED ►

<sup>1)</sup> Versions with roll-up grille, Katherm HK with linear grille are available on request!

<sup>2)</sup> at LPHW 75/65 °C,  $t_{l1} = 20$  °C

<sup>3)</sup> at CHW 16/18,  $t_{l1} = 27$  °C, 48% relative humidity

<sup>4)</sup> at CHW 7/12 °C,  $t_{l1} = 27$  °C, 48% relative humidity

<sup>5)</sup> Add an additional power consumption of 1 W per thermoelectric actuator.

<sup>6)</sup> Values rounded up within the measurement tolerances.

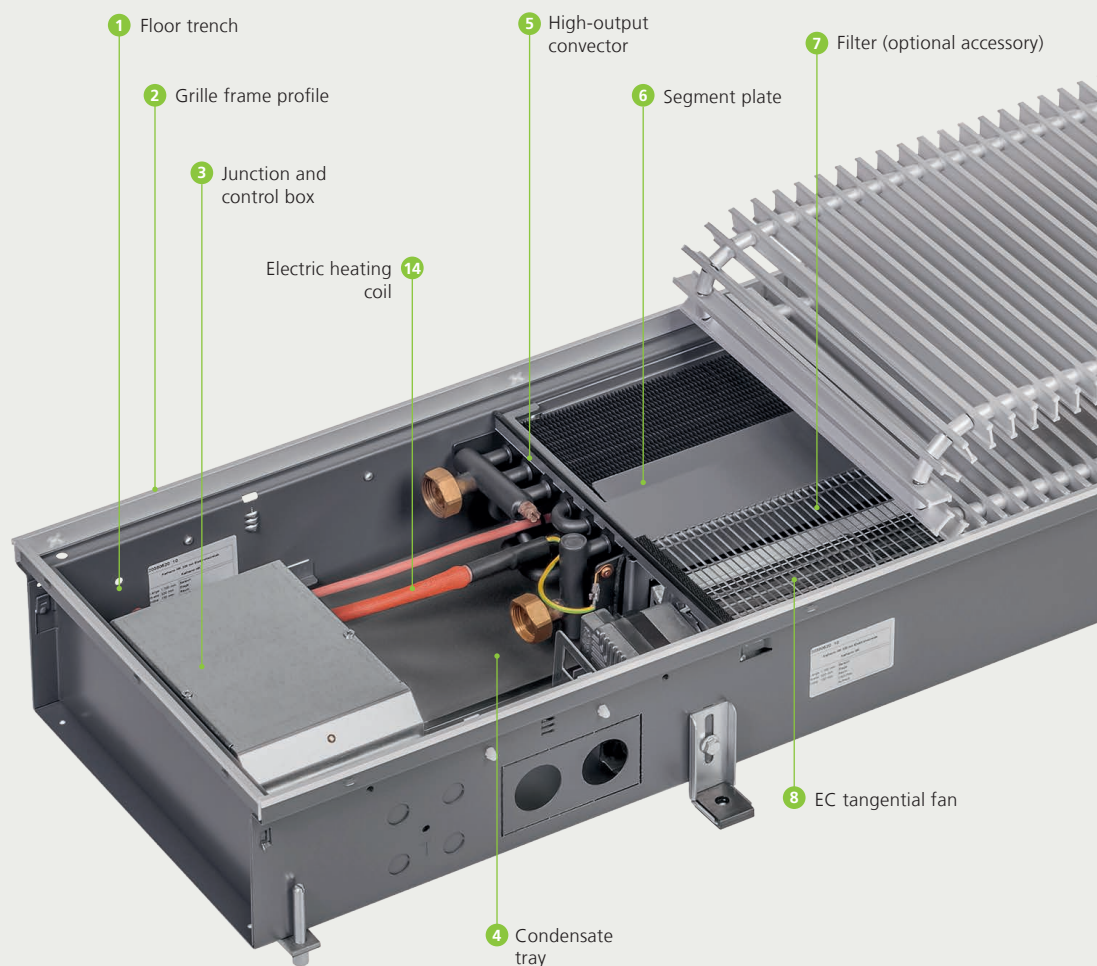
<sup>7)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081) Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

Length <sup>1)</sup>	Control voltage	Heat output <sup>2)</sup>	Outlet air temperature	Cooling output, total <sup>3)</sup>	Cooling output, sensible	Outlet air temperature	Cooling output, total <sup>3)</sup>	Cooling output, sensible	Outlet air temperature	Power consumption <sup>3)</sup>	Current consumption	SFP value	Air flow <sup>6)</sup>	Sound pressure level <sup>7)</sup>	Sound power level
[mm]	[V]	[W]	[°C]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[mA]	[Ws/m³]	[m³/h]	[dB(A)]	[dB(A)]
1980	10	7273	37.5	2133	2133	20.6	4225	3530	16.5	52.5	496	190	996	50	58
	8	5740	37.5	1654	1654	20.7	3324	2731	16.2	24.8	272	114	784	42	50
	6	4090	37.6	1139	1139	20.2	2317	1871	15.0	11.1	142	72	556	31	39
	4	2992	41.9	621	621	19.2	1269	1007	13.1	4.9	74	54	328	19	27
	2	1545	45.8	205	205	18.9	399	313	12.6	2.6	44	64	144	14	22
2080	10	7807	37.5	2290	2290	20.6	4536	3789	16.5	56.5	526	190	1069	50	58
	8	6162	37.5	1776	1776	20.7	3568	2932	16.2	26.3	284	112	842	42	50
	6	4390	37.6	1222	1222	20.2	2487	2009	15.0	11.5	146	69	597	31	39
	4	3212	41.9	666	666	19.2	1362	1081	13.1	5.0	75	52	352	19	27
	2	1658	45.8	220	220	18.9	429	336	12.6	2.6	44	60	154	14	22
2180	10	8342	37.5	2447	2447	20.6	4847	4049	16.5	60.5	557	191	1142	50	58
	8	6584	37.5	1897	1897	20.7	3812	3133	16.2	27.7	297	111	900	42	50
	6	4691	37.6	1306	1306	20.2	2658	2146	15.0	12.0	151	67	638	31	39
	4	3432	41.9	712	712	19.2	1455	1155	13.1	5.1	76	49	376	19	27
	2	1772	45.8	235	235	18.9	458	359	12.6	2.6	44	57	165	14	22
2290	10	8770	37.5	2572	2572	20.6	5095	4257	16.5	63.8	582	191	1201	52	60
	8	6922	37.5	1995	1995	20.7	4008	3294	16.2	28.9	307	110	946	44	52
	6	4932	37.6	1373	1373	20.2	2793	2256	15.0	12.3	154	66	671	33	41
	4	3608	41.9	745	745	19.3	1519	1206	13.2	5.2	77	48	395	21	29
	2	1863	45.8	220	220	19.4	419	328	13.4	2.6	44	54	173	16	24
2390	10	9305	37.5	2729	2729	20.6	5406	4516	16.5	68.0	613	192	1274	52	60
	8	7344	37.5	2116	2116	20.7	4252	3494	16.2	30.3	319	109	1003	44	52
	6	5232	37.6	1457	1457	20.2	2964	2394	15.0	12.7	158	64	712	33	41
	4	3828	41.9	792	792	19.2	1614	1282	13.2	5.3	78	46	419	21	29
	2	1976	45.8	235	235	19.3	449	352	13.4	2.6	44	52	184	16	24
2490	10	9839	37.5	2886	2886	20.6	5716	4776	16.5	72.2	646	193	1347	52	60
	8	7766	37.5	2238	2238	20.7	4497	3695	16.2	31.8	332	108	1061	44	52
	6	5533	37.6	1540	1540	20.2	3134	2531	15.0	13.1	162	63	753	33	41
	4	4048	41.9	838	838	19.2	1710	1357	13.2	5.4	79	44	443	21	29
	2	2090	45.8	251	251	19.3	479	375	13.3	2.6	44	49	194	16	24
2590	10	10374	37.5	3042	3042	20.6	6027	5035	16.5	76.3	678	193	1420	52	60
	8	8188	37.5	2360	2360	20.7	4741	3896	16.2	33.2	344	107	1119	44	52
	6	5834	37.6	1624	1624	20.2	3305	2669	15.0	13.5	166	61	794	33	41
	4	4268	41.9	884	884	19.2	1804	1432	13.2	5.5	80	42	467	21	29
	2	2204	45.8	267	267	19.3	510	399	13.3	2.7	44	47	205	16	24
2690	10	10909	37.5	3199	3199	20.6	6338	5295	16.5	80.4	711	194	1494	52	60
	8	8610	37.5	2481	2481	20.7	4985	4097	16.2	34.6	357	106	1176	44	52
	6	6134	37.6	1708	1708	20.2	3475	2807	15.0	13.9	170	60	835	33	41
	4	4488	41.9	930	930	19.2	1899	1507	13.2	5.6	80	41	491	21	29
	2	2317	45.8	283	283	19.2	540	423	13.2	2.7	44	45	216	16	24
2790	10	11444	37.5	3356	3356	20.6	6648	5554	16.5	84.5	744	194	1567	52	60
	8	9032	37.5	2603	2603	20.7	5230	4298	16.2	35.9	369	105	1234	44	52
	6	6435	37.6	1792	1792	20.2	3646	2944	15.0	14.3	173	59	876	33	41
	4	4708	41.9	976	976	19.2	1993	1582	13.1	5.7	81	40	516	21	29
	2	2431	45.8	299	299	19.2	571	447	13.2	2.7	44	43	226	16	24
2890	10	11978	37.5	3513	3513	20.6	6959	5814	16.5	88.4	776	194	1640	52	60
	8	9454	37.5	2725	2725	20.7	5474	4499	16.2	37.2	381	104	1292	44	52
	6	6736	37.6	1875	1875	20.2	3816	3082	15.0	14.7	177	58	916	33	41
	4	4928	41.9	1022	1022	19.2	2087	1657	13.1	5.7	82	38	540	21	29
	2	2544	45.8	315	315	19.2	602	472	13.2	2.7	44	41	237	16	24
2990	10	12513	37.5	3670	3670	20.6	7270	6074	16.5	92.2	809	194	1713	52	60
	8	9876	37.5	2846	2846	20.7	5718	4699	16.2	38.5	392	103	1349	44	52
	6	7036	37.6	1959	1959	20.2	3986	3219	15.0	15.0	180	56	957	33	41
	4	5148	41.9	1068	1068	19.2	2181	1731	13.1	5.8	82	37	564	21	29
	2	2658	45.8	331	331	19.2	633	496	13.1	2.7	44	40	247	16	24

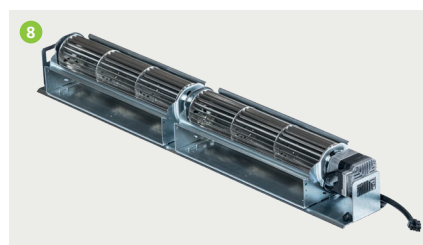
Use our calculation tools on our website to easily calculate heat outputs and other technical data with just a few clicks!

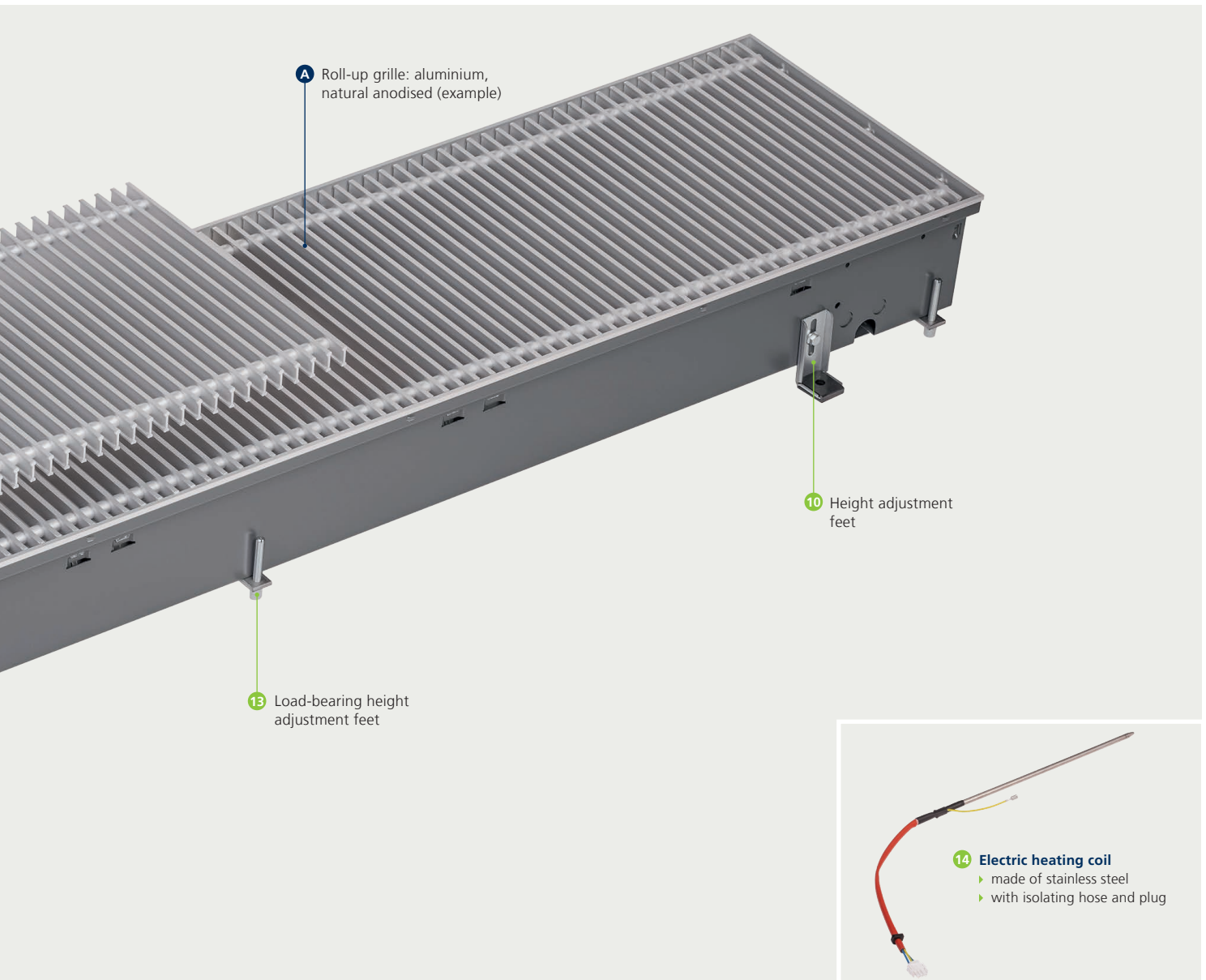
► <https://www.kampmanngroup.com/hvac/products/trench-technology/katherm-hk-p#Calculate-performance-data>

## Katherm HK E at a glance



## Features



**1 Floor trench**

- ▶ made of sendzimir galvanised sheet steel
- ▶ painted graphite-grey
- ▶ with pre-punched connection openings for heat exchanger and electrical connection

**2 Grille frame profile:**

- ▶ to match the colour of the double T-profile grille
- ▶ with protective lip on 3 sides
- ▶ with pre-punched connection openings for heat exchanger and electrical connection

**3 Junction and control box:**

- ▶ for fast and safe wiring, saves installation time
- ▶ KaControl or electromechanical control

**4 Condensate tray:**

- ▶ for factory connection and wiring of the electric heating coil and safety chain
- ▶ for safe condensate drainage and simultaneous air guidance

- ▶ specifically designed for ease of cleaning in line with the Hygiene Directive VDI 6022
- ▶ can be removed to the room side for ease of cleaning

**5 High-output convector:**

- ▶ with integral electric heating coil and safety chain
- ▶ made of copper pipes with aluminium fins
- ▶ painted graphite-grey
- ▶ suitable for max. continuous operating pressure of 10 bar and 120 °C
- ▶ Eurokonus connection
- ▶ for 2-pipe system with integral electric heating element for direct and individual heating

**6 Segment plate:**

- ▶ acts as a finger guard for the tangential fan, filter mounting frame, air guide plate, grille seat and reinforcing braces to strengthen the trench

**7 Filter:**

- ▶ optional accessory

**8 EC tangential fan:**

- ▶ energy-saving, with flow-optimised impellers, cascaded arrangement as a continuous fan strip (HK 320)
- ▶ produces a uniform air flow through the convector
- ▶ robust and quiet motor design
- ▶ continuously variable fan speed control via an external 0-10 V signal
- ▶ motor monitoring with internal fault processing

**9 Cover plate:**

- ▶ as visual protection and protection from dirt
- ▶ for connecting/return end and intermediate sections

**10 Height adjustment feet:**

- ▶ for the secure mounting of the trench
- ▶ with sound insulation
- ▶ fitted as standard

**11 Condensate pump fitting kit:**

- ▶ available as an accessory to drain condensate, if needed
- ▶ supplied separately or factory-fitted
- ▶ electrically wired on site

**12 Attachment of tangential fan:**

- ▶ ease of removal of the tangential fan without a tool
- ▶ innovative combined coupling/ball joint system
- ▶ simultaneous acoustic decoupling

**13 Load-bearing height adjustment feet:**

- ▶ for height adjustment and support of the trench
- ▶ with soundproofing cap

**A Aluminium roll-up grille, natural, anodised (example):**

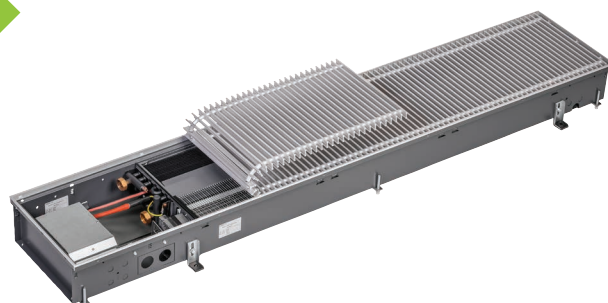
- ▶ grille bar dimensions 18 x 5 mm
- ▶ connections made of corrosion-proof steel springs with spacers in a matching colour
- ▶ free cross-section approx. 70%

# Product data



## Product benefits

- ▶ Hygiene-certified in accordance with VDI 6022
- ▶ Heat outputs tested independently in accordance with DIN EN 16430
- ▶ EC fan - efficient in terms of noise and energy
- ▶ Low-cost effective heating and cooling with low noise levels
- ▶ Eurokonus valve connection for fast installation
- ▶ Optional electric heating function as a 2-pipe system in the HK E version
- ▶ Life Cycle Assessment data published in the form of an EPD according to EN 15804 and available to download from the International EPD System. Registered in the DGNB Navigator construction product platform.



## Features

- ▶ Energy-saving EC tangential fan with flow-optimised impellers
- ▶ Condensate tray can be removed to the room side for complete cleaning
- ▶ Sound-decoupled fixing of the tangential fans, easy removal without tools
- ▶ Connection and control box for fast electrical connection
- ▶ Condensate pump mounting kit, supplied separately or factory-fitted
- ▶ Roll-up and linear grilles with colour-coordinated spacers

<b>Convection</b>	▶ EC tangential fan
<b>Heating</b>	▶ Electric heating element
<b>Cooling</b>	▶ CHW
<b>Ventilation</b>	
<b>KaControl</b>	▶ Optional

## Performance data

<b>electric heat output</b>	▶ 200 – 1500
<b>Heat output<sup>1)</sup></b>	▶ 649 – 14599
<b>Cooling output<sup>2)</sup></b>	▶ 121 – 2589
<b>Sound pressure level<sup>3)</sup></b>	▶ 8 – 45
<b>Sound power level</b>	▶ 16 – 53

<sup>1)</sup> at LPHW 75/65 °C,  $t_{r1} = 20$  °C

<sup>2)</sup> at CHW 16/18,  $t_{r1} = 27$  °C, 48% relative humidity

<sup>3)</sup> The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m<sup>3</sup> and a reverberation time of 0.5 s (in accordance with VDI 2081)

### Operating limits

- ▶ Max. operating pressure: 10 bar
- ▶ Max. entering water temperature: 95 °C
- ▶ Min. entering water temperature: 5 °C
- ▶ Max. air inlet temp.: 40 °C
- ▶ Max. glycol volume: 50 %

## Applications

Buildings of all kinds, in which there is a high cooling load due to internal loads and the effects of sunlight. Experience has shown that Katherm HK can provide low-cost, effective cooling with low, non-disruptive sound levels.

## Selection guide Katherm HK / HK E

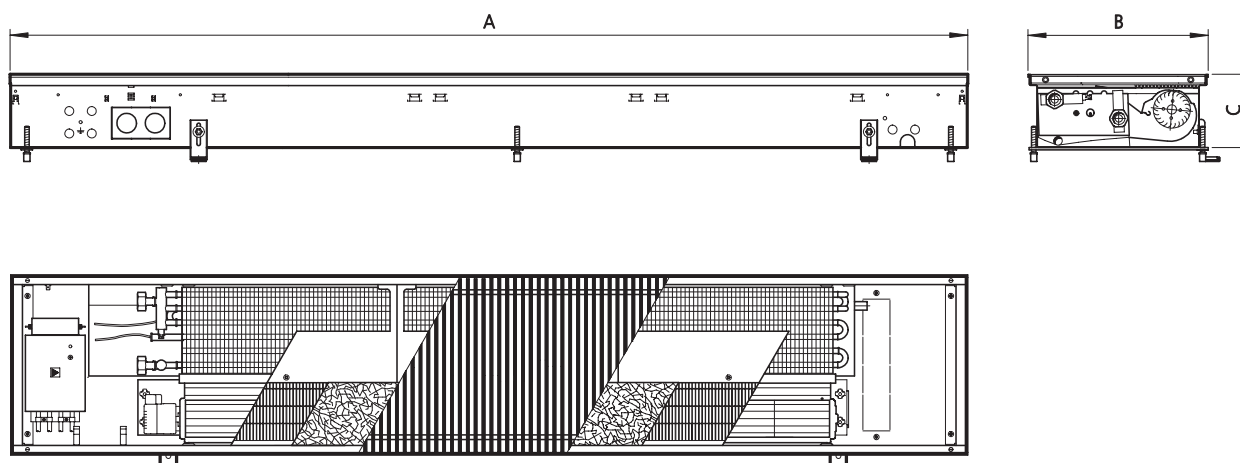
Length (A) [mm]	Width (B) [mm]	Height (C) [mm]	System						
			2-pipe		2-pipe electric heating element			4-pipe	
			heat output LPHW <sup>1)</sup> [W]	Cooling output <sup>2)</sup> [W]	electric heat output <sup>3)</sup> [W]	heat output LPHW <sup>1)</sup> [W]	Cooling output <sup>2)</sup> [W]	heat output LPHW <sup>1)</sup> [W]	Cooling output <sup>2)</sup> [W]
830 – 2990	290	160	892 – 20849	90 – 3745	200 – 1500	993 – 14599	108 – 2589	432 – 12513	88 – 3670
915 – 3000	320	130	697 – 10465	125 – 1925		649 – 9800	121 – 1851	436 – 6512	121 – 1851
	245	160	637 – 8710	66 – 1507	---	---	---	462 – 6316	62 – 1420
950 – 2250	360	210	1224 – 16884	120 – 3348	---	---	---	643 – 12243	114 – 3153

<sup>1)</sup> at LPHW 75/65 °C,  $t_{l1}$  = 20 °C, with fan coils

<sup>2)</sup> with CHW 16/18 °C,  $t_{l1}$  = 27 °C, 48% rel. humidity, with fan coils

<sup>3)</sup> when operating with an electric heating element

### Technical drawing (Dimensions in mm)

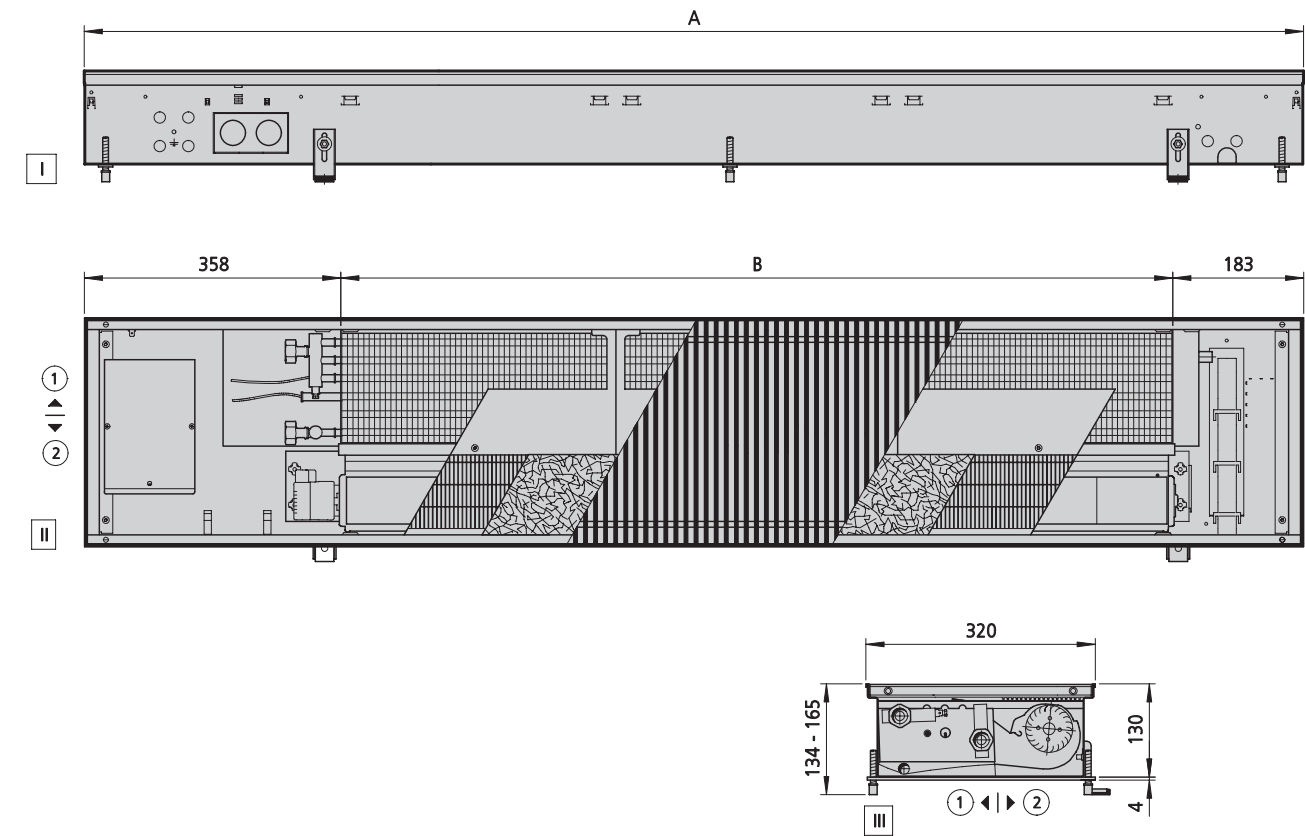


Katherm HK

2-pipe electric heating element

Width 320 mm, Height 130 mm

Technical drawing (Dimensions in mm)



- View
- I Front view
  - II top view (without cover panel)
  - III cross-section
- Further information
- 1 window side
  - 2 room side

Specifications

Art. no. (**Control option)	Length (A) [mm]	finned length (B) [mm]	Weight [kg]
143326311113**	915	375	17
143326311119**	1200	660	23
143326311129**	1700	1160	33
143326311135**	2000	1460	39
143326311145**	2500	1960	49
143326311155**	3000	2460	60

## Performance data

Length <sup>1)</sup>	Control voltage	electric heat output <sup>2)</sup>	heat output LPHW <sup>3)</sup>	Outlet air temperature	Cooling output, total <sup>4)</sup>	Cooling output, sensible	Outlet air temperature	Cooling output, total <sup>5)</sup>	Cooling output, sensible	Outlet air temperature	Power consumption <sup>6)</sup>	Current consumption	current consumption with electric immersion heater	SFP value	Air flow <sup>7)</sup>	Sound pressure level <sup>8)</sup>	Sound power level
[mm]	[V]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[mA]	[A]	[Ws/m³]	[m³/h]	[dB(A)]	[dB(A)]
915	10	500	1653	39.9	373	373	19.8	845	692	12.1	7.9	82	2.26	143	199	33	41
	8	500	1503	40.5	339	339	19.3	769	626	11.1	6.6	68	2.24	134	176	30	38
	6	500	1249	42.1	277	277	18.3	624	502	8.9	5.6	58	2.23	149	135	24	32
	4	350	999	45.2	206	206	16.6	456	363	7.1	5.0	52	1.57	189	95	15	23
	2	200	649	48.5	121	121	16.1	253	199	7.1	4.7	49	0.92	311	55	8	16
1200	10	1000	2724	43.8	553	553	19.6	1224	1002	12.4	11.3	117	4.47	149	274	35	43
	8	1000	2464	44.4	497	497	19.3	1115	907	11.5	8.5	88	4.43	127	242	33	41
	6	1000	2013	45.9	401	401	18.4	912	734	9.3	6.5	67	4.41	126	186	26	34
	4	700	1562	48.6	301	301	16.8	682	543	7.1	5.3	55	3.10	147	131	17	25
	2	400	952	50.3	184	184	16.1	394	311	7.1	5.0	52	1.79	238	75	10	18
1700	10	1000	4900	48.6	927	927	19.1	1867	1528	13.3	16.7	172	4.60	146	411	38	46
	8	1000	4429	49.2	812	812	19.0	1642	1336	13.1	12.6	130	4.48	125	363	35	43
	6	1000	3608	50.9	613	613	18.9	1245	1002	12.8	9.3	96	4.44	120	280	28	36
	4	700	2768	53.8	413	413	18.7	838	668	12.5	6.8	70	3.11	125	196	20	28
	2	400	1565	53.2	214	214	18.7	423	333	12.6	5.1	53	1.79	163	113	13	21
2000	10	1000	5445	48.6	1030	1030	19.2	2074	1698	13.5	22.7	235	4.58	179	457	38	46
	8	1000	4921	49.2	903	903	19.2	1825	1485	13.4	17.0	176	4.52	152	404	36	44
	6	1000	4009	50.9	681	681	19.0	1383	1113	13.1	13.0	135	4.48	151	311	29	37
	4	700	3076	53.8	459	459	18.9	931	742	12.8	10.7	111	3.16	176	218	20	28
	2	400	1739	53.2	238	238	18.9	470	370	13.1	10.0	104	1.84	286	125	13	21
2500	10	1500	7623	48.6	1432	1432	19.6	2808	2299	14.7	28.0	290	6.81	158	639	39	47
	8	1500	6890	49.2	1248	1248	19.6	2437	1983	14.8	21.1	218	6.75	134	565	37	45
	6	1500	5613	50.9	923	923	19.7	1779	1432	15.2	15.8	163	6.68	131	435	30	38
	4	1050	4304	53.8	593	593	20.0	1124	895	16.0	12.1	125	4.69	143	305	22	30
	2	600	2407	52.9	276	276	21.0	512	403	17.7	10.1	105	2.71	207	176	15	23
3000	10	1500	9800	48.6	1851	1851	19.7	3680	3012	14.8	33.3	345	6.86	146	822	41	49
	8	1500	8858	49.2	1619	1619	19.7	3210	2612	14.8	25.1	260	6.80	124	726	38	46
	6	1500	7217	50.9	1209	1209	19.7	2367	1906	15.2	18.5	192	6.71	119	559	31	39
	4	1050	5536	53.8	789	789	20.0	1506	1200	15.9	13.5	140	4.70	124	393	23	31
	2	600	3119	53.1	370	370	21.0	681	537	17.8	10.2	106	2.72	162	226	16	24

Use our calculation tools on our website to easily calculate heat outputs and other technical data with just a few clicks!

► <https://www.kampmanngroup.com/hvac/products/trench-technology/katherm-hk#Calculate-performance-data>

<sup>1)</sup> Versions with roll-up grille, Katherm HK with linear grille are available on request!

<sup>2)</sup> when operating with an electric heating element

<sup>3)</sup> at LPHW 75/65 °C,  $t_{11} = 20$  °C

<sup>4)</sup> at CHW 16/18,  $t_{11} = 27$  °C, 48% relative humidity

<sup>5)</sup> at CHW 7/12 °C,  $t_{11} = 27$  °C, 48% relative humidity

<sup>6)</sup> Add an additional power consumption of 1 W per thermoelectric actuator.

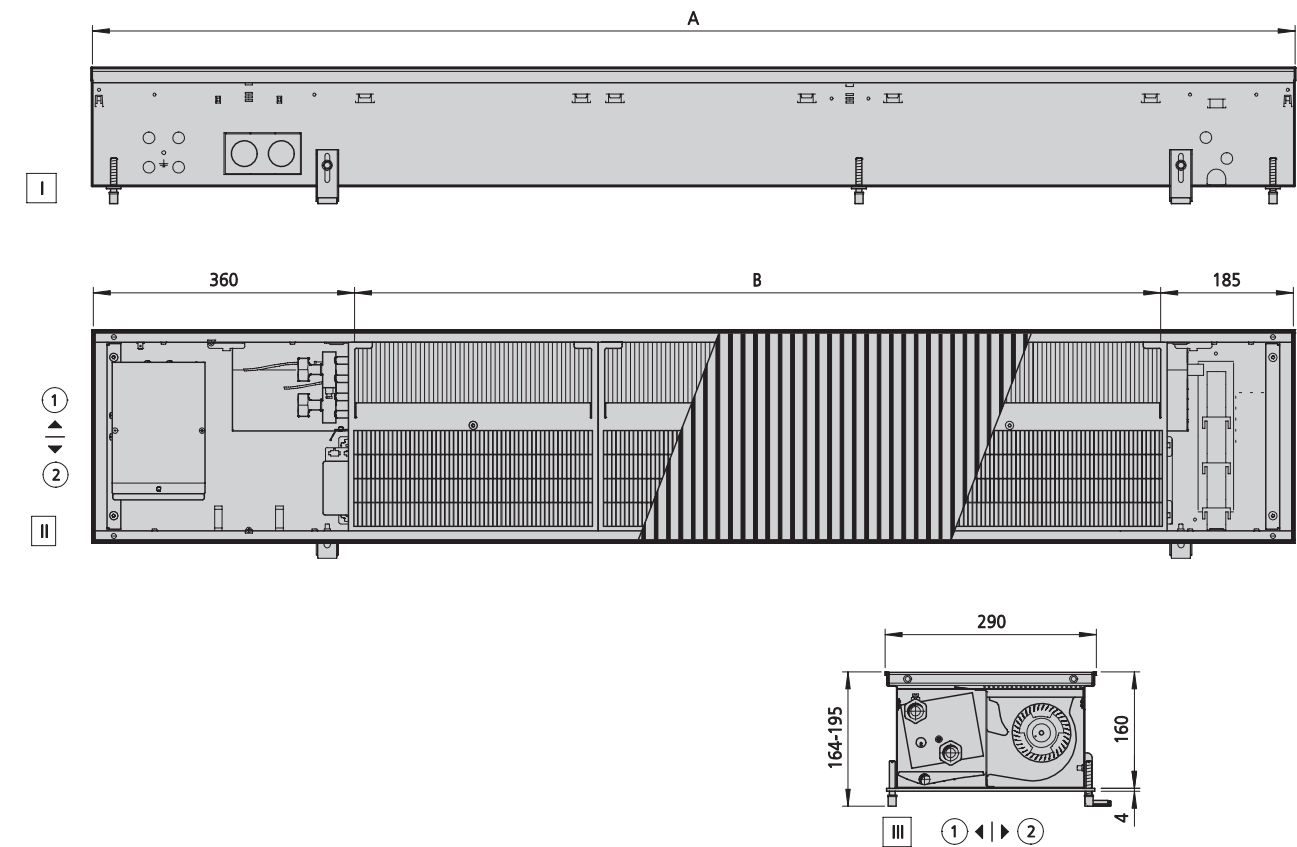
<sup>7)</sup> Values rounded up within the measurement tolerances.

<sup>8)</sup> The sound pressure levels were calculated 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 (in accordance with VDI 2081) Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

# Katherm HK

2-pipe electric heating element  
Width 290 mm, Height 160 mm

Technical drawing (Dimensions in mm)



- View**
- I Front view
  - II top view (without cover panel)
  - III cross-section

- Further information**
- ① window side
  - ② room side

## Specifications

Art. no. (**Control option)	Length (A) [mm]	finned length (B) [mm]	Weight [kg]
143296611114**	950	410	20
143296611119**	1200	660	27
143296611129**	1700	1160	40
143296611135**	2000	1460	47
143296611145**	2500	1960	61
143296611155**	3000	2460	74

## Performance data

Length <sup>1)</sup>	Control voltage	electric heat output <sup>2)</sup>	heat output LPHW <sup>3)</sup>	Outlet air temperature	Cooling output, total <sup>4)</sup>	Cooling output, sensible	Outlet air temperature	Cooling output, total <sup>5)</sup>	Cooling output, sensible	Outlet air temperature	Power consumption <sup>6)</sup>	Current consumption	current consumption with electric immersion heater	SFP value	Air flow <sup>7)</sup>	Sound pressure level <sup>8)</sup>	Sound power level
[mm]	[V]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[W]	[°C]	[W]	[mA]	[A]	[Ws/m³]	[m³/h]	[dB(A)]	[dB(A)]
950	10	500	3117	50.8	453	453	19.9	914	752	16.4	13.4	118	2.26	199	243	37	45
	8	500	2675	53.8	365	365	19.5	746	606	15.8	11.3	104	2.24	216	190	31	39
	6	500	2130	58.1	269	269	18.8	558	448	14.9	9.1	89	2.23	245	134	22	30
	4	350	1529	62.9	181	181	17.7	378	299	13.7	6.7	73	1.57	284	85	13	21
	2	200	993	65.7	108	108	16.8	221	174	13.0	4.2	56	0.92	290	52	9	17
1200	10	1000	4572	47.2	745	745	20.4	1496	1231	17.0	19.2	156	4.47	172	402	40	48
	8	1000	3874	49.5	592	592	20.1	1201	977	16.6	12.7	113	4.43	146	314	33	41
	6	1000	3077	53.2	421	421	19.7	865	694	16.2	8.1	83	4.41	132	222	24	32
	4	700	2248	58.0	267	267	19.2	553	438	15.7	5.5	65	3.10	140	142	15	23
	2	400	1510	61.9	156	156	18.7	322	253	15.4	4.8	60	1.79	199	86	11	19
1700	10	1000	6754	45.1	1194	1194	20.7	2396	1972	17.3	29.1	223	4.60	162	645	42	50
	8	1000	5465	46.0	947	947	20.5	1919	1560	17.0	19.0	155	4.48	136	504	35	43
	6	1000	4001	46.9	667	667	20.2	1362	1093	16.8	11.8	107	4.44	119	356	26	34
	4	700	2596	47.4	398	398	20.2	814	645	17.1	7.5	79	3.11	119	227	17	25
	2	400	1541	46.7	197	197	20.6	393	308	18.3	6.2	71	1.79	162	138	14	22
2000	10	1000	8760	45.1	1548	1548	20.8	3108	2557	17.4	35.2	263	4.58	151	836	43	51
	8	1000	7089	46.0	1229	1229	20.6	2489	2024	17.2	22.3	178	4.52	123	653	36	44
	6	1000	5190	46.9	866	866	20.4	1767	1418	17.0	13.2	117	4.48	103	462	27	35
	4	700	3366	47.4	517	517	20.4	1055	836	17.3	7.9	81	3.16	96	294	18	26
	2	400	1999	46.7	255	255	20.9	509	400	18.6	6.3	70	1.84	126	179	15	23
2500	10	1500	11178	44.8	1998	1998	21.0	4009	3299	17.6	46.5	338	6.81	155	1079	44	52
	8	1500	8928	45.4	1585	1585	20.8	3211	2611	17.3	28.7	220	6.75	122	843	37	45
	6	1500	6328	45.5	1116	1116	20.6	2278	1828	17.2	16.3	137	6.68	98	596	28	36
	4	1050	3847	44.3	661	661	20.7	1345	1066	17.7	9.4	91	4.69	89	380	19	27
	2	600	2100	41.7	306	306	21.5	601	472	19.4	7.9	81	2.71	123	231	16	24
3000	10	1500	14599	45.0	2589	2589	21.1	5195	4275	17.7	52.9	409	6.86	136	1398	45	53
	8	1500	11745	45.8	2054	2054	20.9	4161	3384	17.4	32.3	283	6.80	106	1092	39	47
	6	1500	8433	46.2	1447	1447	20.7	2954	2370	17.4	17.9	183	6.71	84	772	29	37
	4	1050	5193	45.3	862	862	20.8	1758	1393	17.8	9.8	111	4.70	71	492	20	28
	2	600	2835	42.7	410	410	21.6	808	634	19.5	7.9	65	2.72	94	300	17	25

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► <https://www.kampmanngroup.com/hvac/products/trench-technology/katherm-hk#Calculate-performance-data>

<sup>1)</sup> Versions with roll-up grille, Katherm HK with linear grille are available on request!

<sup>2)</sup> when operating with an electric heating element

<sup>3)</sup> at LPHW 75/65 °C,  $t_{11} = 20$  °C

<sup>4)</sup> at CHW 16/12,  $t_{11} = 27$  °C, 48% relative humidity

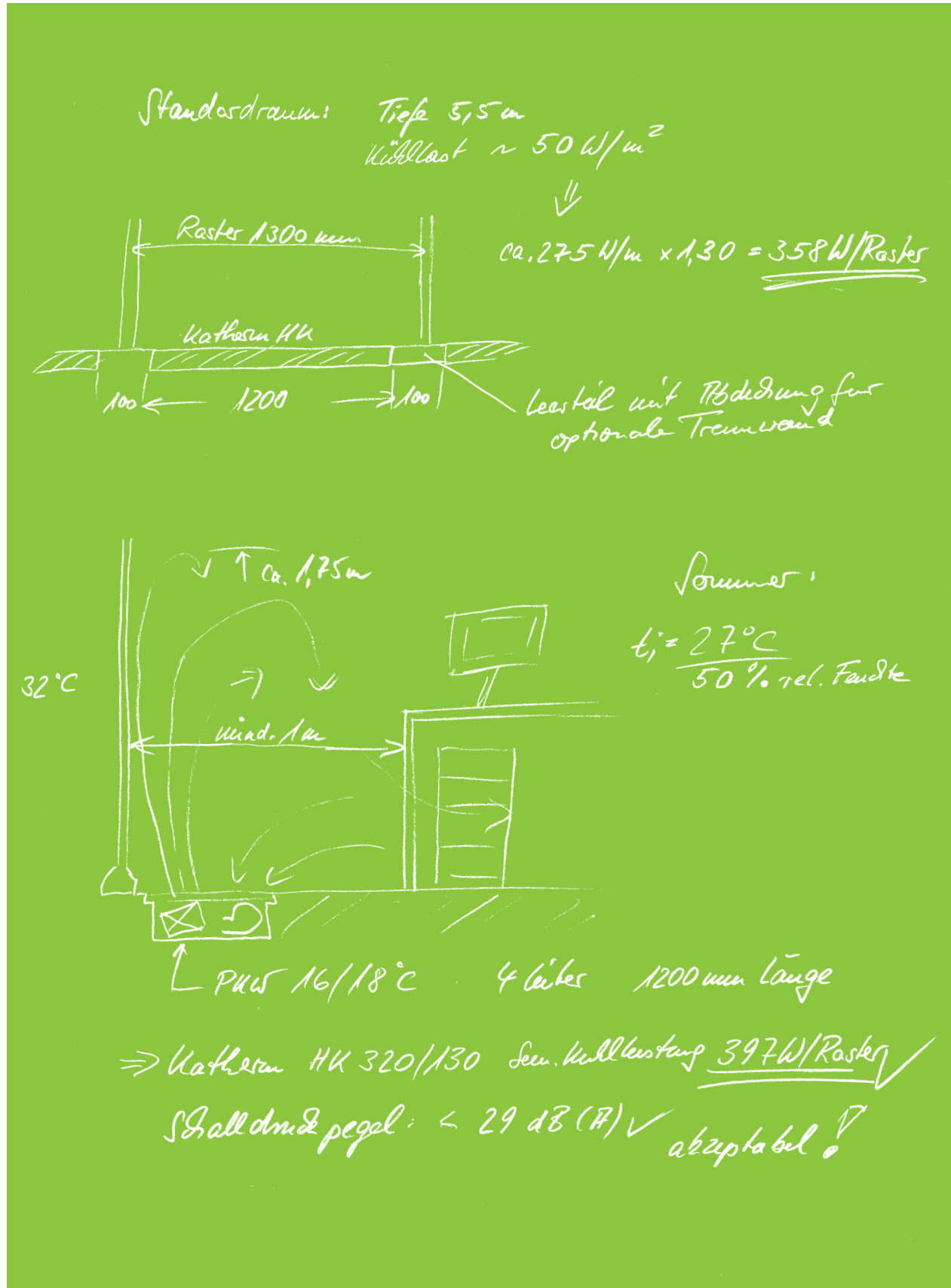
<sup>5)</sup> at CHW 7/12 °C,  $t_{11} = 27$  °C, 48% relative humidity

<sup>6)</sup> Add an additional power consumption of 1 W per thermoelectric actuator.

<sup>7)</sup> Values rounded up within the measurement tolerances.

<sup>8)</sup> The sound pressure levels were calculated 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 (in accordance with VDI 2081) Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

## 03 ► Design information



## Information on planning and design

Katherm HK are suitable for all types of buildings in which there is a cooling load due to internal loads and sunlight incidence. Units are generally positioned directly in front of the external façade without a large gap. Katherm HK can provide cost-effective and efficient cooling, particularly in front of large areas of glazing.

### Air outlet

Katherm HK are positioned with the convector on the facade side. Due to their high air outputs, the arrangement of the convector on the room side would impair comfort in the occupied zone.

### Acoustics

When designing a system, be aware that disruptive sound levels can occur at high fan speeds. The respective sound power levels of a Katherm HK are listed in the tables (see "Technical data"). The sound pressure level was calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m<sup>3</sup> and a reverberation time of 0.5 s (in accordance with VDI 2081).

As the sound pressure level is not only due to the Katherm HK itself but is also influenced by the number of Katherm HK units and also very significantly by the acoustic characteristics of the room, the actual figure may vary in practice.

We would recommend designing Katherm HK taking into account the respective permitted sound pressure level in the room.

### Heat and cooling outputs

The heat and cooling outputs have been determined in accordance with DIN EN 16430. For conversion to other operating conditions, we recommend our online calculation programs at: [kampmann-group.com/katherm-hk/calculation](https://kampmann-group.com/katherm-hk/calculation).

### Katherm HK E heat outputs

The heat output characteristic curve to determine the control voltage was measured taking into consideration DIN EN 60335, Part 1, Part 2 - 30 and Part 2 - 40.

### Comfort

Comfort was calculated taking into consideration DIN EN ISO 7730 (May 2006) "Ergonomics of the thermal environment – analytical determination and interpretation of thermal comfort by calculation of the PMV and the PDB indexes and local thermal comfort criteria (ISO 7730:2004).

### Katherm HK P – for additional primary air supply

Katherm HK units with primary air supply are perfectly suited to supplying prepared primary air (fresh air) into a space, perfectly combining heating, cooling and a supply of fresh air. There are two primary air module versions available: fresh air supply through primary air modules with supply air spigot or air supply through a pressurised floor. With both versions, the primary air volumetric flow emerges from the trench at a low-turbulence leaving air velocity. The amount of air supplied can be adjusted as required using air sliders.

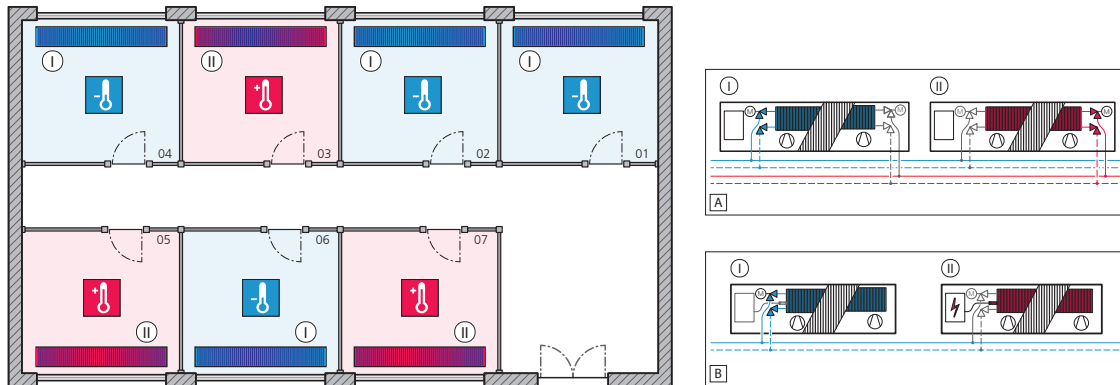
Use our online calculation programs to easily calculate your heat or cooling outputs and heating and cooling medium with just a few clicks!

► [kampmann-group.com/katherm-hk/calculation](https://kampmann-group.com/katherm-hk/calculation)

# Planning of Katherm HK E for optional heating in electric mode

## Optional electric heating function

Electric heating is possible in addition to water-based heating and cooling with the 2-pipe Katherm HK E version with an integrated continuously variably controlled electric heating element. This means that the heat requirement of a room can be met either by the convector and also directly by the electric heating element.



Example: Floor of an office building with multiple single offices

- A** 4-pipe operation with a convector (CHW cooling/LPHW heating)  
**B** 2-pipe operation of the HK E with a convector (CHW cooling) and heating by the electric element  
**I** Cooling  
**II** Heating

## Katherm HK E 2-pipe system as a comfort solution

In normal 2-pipe operation, rooms are either cooled (CHW cooling) or heated (LPHW heating) via the convector. The system needs to be centrally switched over to change from cooling to heating mode. Katherm HK E units with electric heating element offer a 2-pipe solution with the comfort and convenience of a 4-pipe system. The decisive benefits are as follows:

- ▶ Individual determination of the indoor climate by the user of the room. The electric heating element can be used for heating, regardless of the other offices, although the other offices might still be in cooling mode. The Katherm HK E takes over a 4-pipe function.
- ▶ Flexible room design becomes possible.
- ▶ The electric heating element can be used to provide full heating, depending on the heat requirement. In the event of a higher heat requirement, for instance with cold outside temperatures in winter, the heat requirement can be met by the convector in water-based heating mode.

## Sustainable 4-pipe system solution at the cost of a 2-pipe system

The use of Katherm HK E offers the following benefits compared to a traditional 4-pipe system, which also have an impact on the sustainability rating of a building:

- ▶ Saving in terms of pipework for a 4-pipe system within the floors and risers, including distribution pipes, connection pipework, fittings and valves.
- ▶ Significant raw material savings and lower material costs.
- ▶ Reduced CO<sub>2</sub> emissions along the value chain.
- ▶ Considerably shorter installation time and lower commission costs.
- ▶ Positive CO<sub>2</sub> footprint by the use of green electricity from renewable energy sources.

## HK-E control functions

### A. How does the control work?

The electric heating element and the EC tangential fan can be continuously variably controlled in the electric heating-power output. Heating or cooling operating mode is defined externally in the system setting via a potential-free contact. In cooling mode, chilled water is fed to the system and the room user has the option of individually cooling with chilled water (**CHW cooling**) or heating with the electric heating element (**electric heating**) depending on the day and the temperature. When the system is set to heating mode, chilled water is fed to the system – in this case, heating can only be provided by the convector (**LPHW heating**).

The following control options are available for control of the Katherm HK E.

#### a. Electromechanical control version (-00):

The control responds to on-site signals or Kampmann room thermostats. Switch-over between cooling/heating mode must be done by a contact on site. A potential-free collective fault message is optionally available.

#### b. KaControl control option (-C1):

The control is provided by the Kampmann KaControl control system. Every unit is equipped with its own intelligence. Switch-over between cooling/heating mode must be done by a contact on site.

### B. Switch-over between operating modes

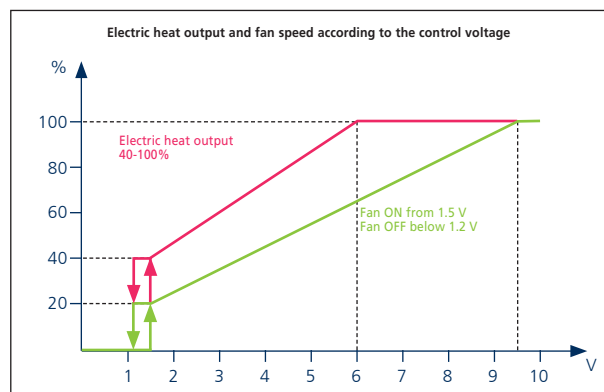
The operating modes of the Katherm HK E can be switched via an external potential-free contact. When the contact is open **LPHW heating operating mode** is specified. When the contact is closed, cooling is possible in **CHW cooling mode** or heating in **Electric heating mode**.

### C. Electric heating operating mode

The fan starts up at the minimum fan speed at a control voltage of approx. 1.5 V and the electric heating element is switched on. This can regulate the heat output at between 40% and 100% within a range of 1.5 V to 6 V. It means that the full heat output is reached at the design point at a low sound power level.

### D. Safety shut-off device

Every Katherm HK E is fitted with a safety shut-off device. If the temperature of the grille surface rises impermissibly high if the unit is used incorrectly, for instance by covering the trench convector, the heat output is automatically reduced. If the temperature cannot be reduced, then the safety temperature limiter shuts down the unit. The triggering of the safety temperature limiter and other fault messages can be reported via a potential-free alarm contact.



## Katherm HK with optional primary air function

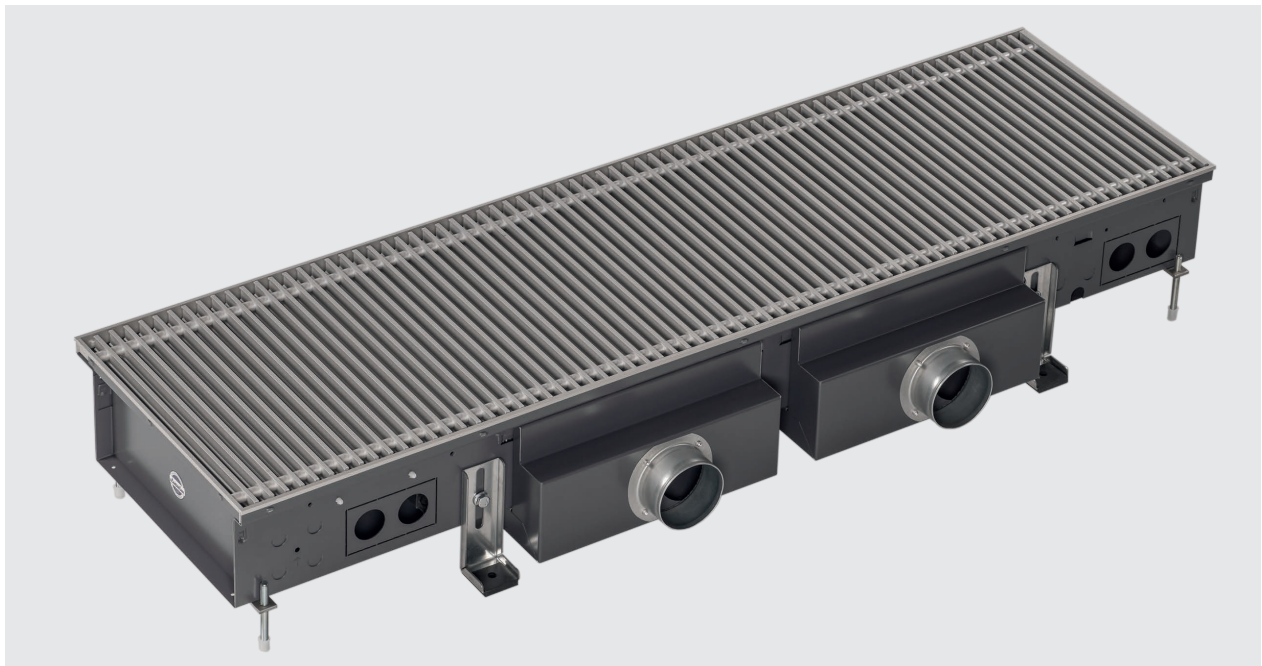


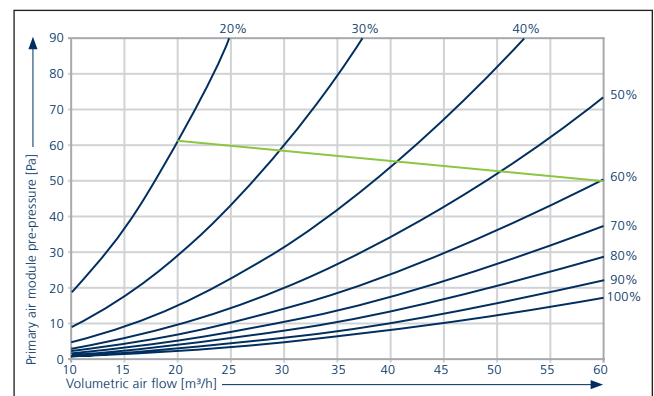
Fig. Katherm HK with primary air modules

Katherm HK units with primary air function are ideally suited to supplying primary air (fresh air) into a space, perfectly combining heating, cooling and a supply of fresh air. There are two versions available: supply of primary air through supply air modules or through supply air trenches.

### Supply air with primary air module function

The conditioned primary air enters through a variable number of supply air modules below the trench convector. It escapes through a discharge slot arranged along the length of the trench convector and mixes with the secondary air heated or cooled by the convector before exiting into the room. Exiting at a slow and low-turbulence air speed, this provides effective air screening in front of the glazing. The volume of air supplied can be conveniently adjusted via the variable number of supply air modules per trench and the continuously adjustable slider. Up to 60 m<sup>3</sup>/h of primary air can be supplied per supply air module. Air flow noises can be perceived at a high volumetric air flow rate combined with a low slider position (see adjacent diagram).

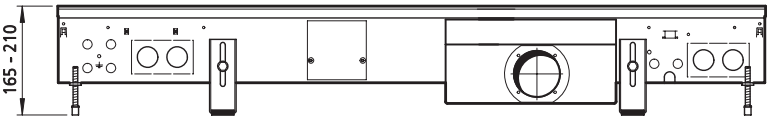
### Slider positions<sup>1)</sup>



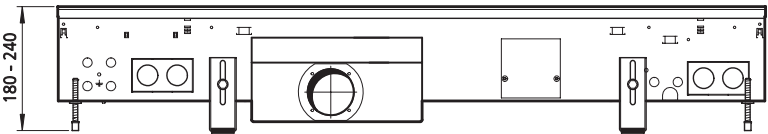
— Slider position  
— Limit of perceptible air flow noises

<sup>1)</sup>The slider position corresponds to the percentage of the open cross-sectional area of the primary air inlet.

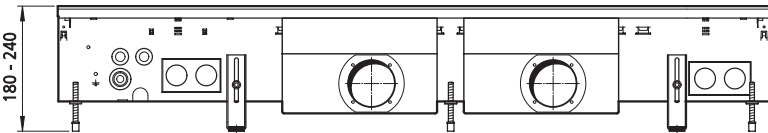
Dimensions: Katherm HK with primary air modules



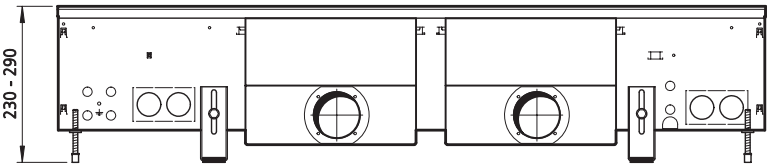
Front view of HK 320 / H 320 E (example shows 1 primary air module)



Front view of HK 245 (example shows 2 primary air modules)

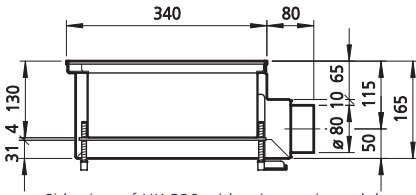


Front view of HK 290 (example shows 2 primary air modules)

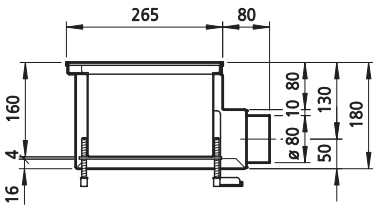


Front view of HK 360 (example shows 2 primary air modules)

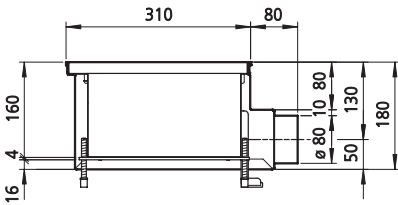
Window side Room side



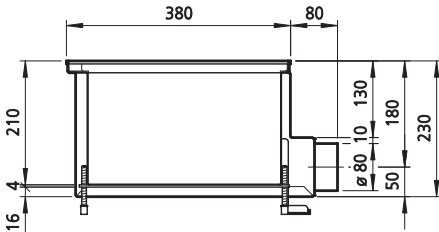
Side view of HK 320 with primary air module



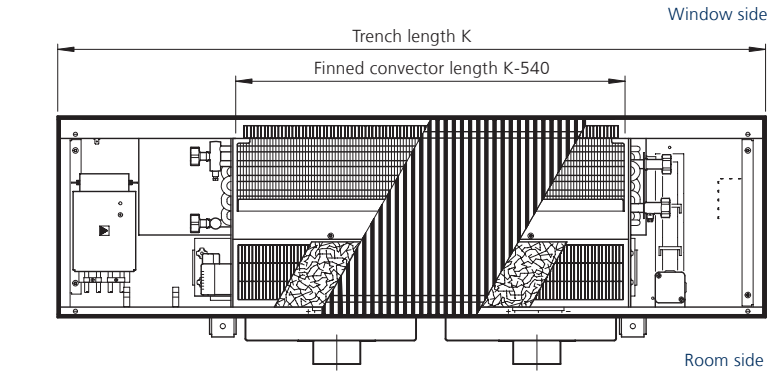
Side view of HK 245 with primary air modules



Side view of HK 290 with primary air modules



Side view of HK 360 with primary air modules

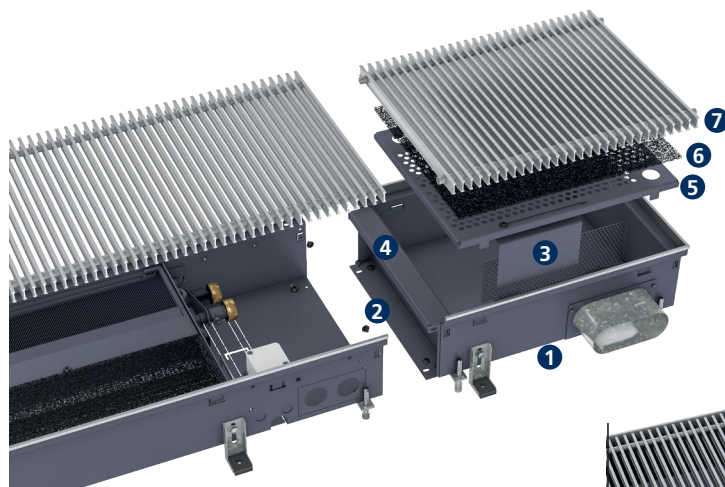


Top view (without cover)

Katherm HK	Trench length [mm]	Max. number of primary air modules
HK 320 HK 290 HK 245	915 / 950*	1
	1200	2
	1700	3
	2000	4
	2500	5
	3000	6
HK 360	950	1
	1200	2
	1350	2
	1850	3
	2250	4

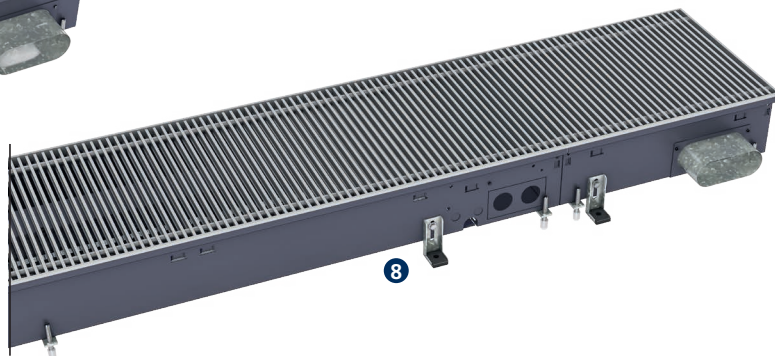
\*with Katherm HK 290

## Katherm HK – supply air trenches ZL



- 1 Supply air trench with supply air spigots
- 2 Connecting bracket
- 3 Supply air slider
- 4 Reinforcing struts
- 5 Perforated plate
- 6 Filter
- 7 Example Optiline roll-up grille
- 8 Kampmann HK shown with Optiline roll-up grille

Combination of Katherm HK with a supply air trench  
(Filter, optional accessory)

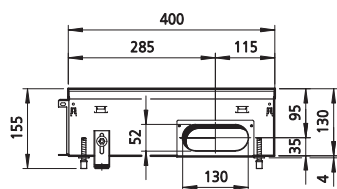


The Katherm supply air module ZL is available for all trench convectors (Katherm range). It is a 400 mm long trench, which can be fitted to all designs of Katherm units. Conditioned primary air can also be fed into rooms through the Katherm supply air trench ZL. This is achieved with different sizes/designs of spigots for the most diverse trench dimensions. It is possible to regulate the air volume flow by means of slider elements in the supply air modules.

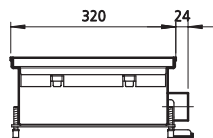
### Benefits

- ▶ Available for trench widths and heights as per the table in the Katherm range
- ▶ Supply air feed through the Katherm floor trench convector.
- ▶ Low leaving air velocities, hence pleasant level of comfort.
- ▶ Low noise levels when correctly designed
- ▶ Low investment and maintenance costs.
- ▶ Supply air outlets visually identical to Katherm trench convectors.
- ▶ No wear parts / no electrically rotating parts

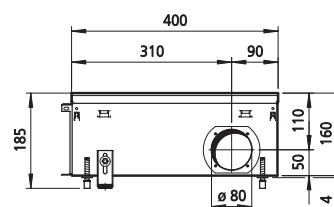
Trench width	Trench length	Trench height	Supply air spigot	Max. Air volume flow (noiseless)
[mm]	[mm]	[mm]	[mm]	[m³/h]
320	400	130	oval 51x128	70
245	400	160	DN 80	60
290	400	160	DN 80	60
360	400	210	DN 100	85



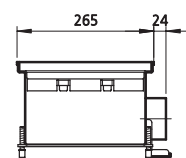
Supply air trench, oval,  
for Katherm HK 320/130



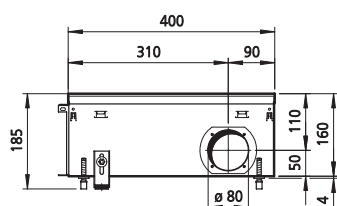
Side view



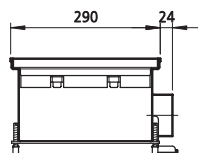
Supply air trench DN 80,  
for Katherm HK 245/160



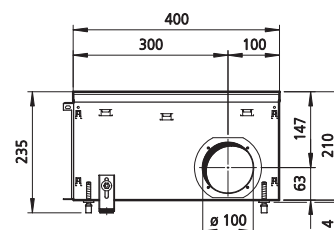
Side view



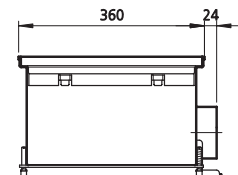
Supply air trench DN 80,  
for Katherm HK 290/160



Side view



Supply air trench DN 100,  
for Katherm HK 360/210



Side view

## Comfort

Comfort plays a key role in room air conditioning. When designing Kampmann trench convectors, we can support you in taking into account and complying with the current DIN EN 15251 (in future DIN EN 16798 Parts 1 and 2) and DIN EN ISO 7730 guidelines. In principle, the following recommended values can be assumed:



### In heating mode:

**Supply air outlet temperature:** 20 – 26 °C  
(but not lower than the room temperature)  
**Discharge air speed:** < 1.5 m/s  
**Distance of the supply air trench from the occupied zone:** > 0.5 m



### In cooling mode:

**Supply air outlet temperature:**  
< 4K below room temperature  
**Outlet air speed:** < 1.2 m/s  
**Distance of the supply air trench from the occupied zone:** > 1 m

## Other parameters

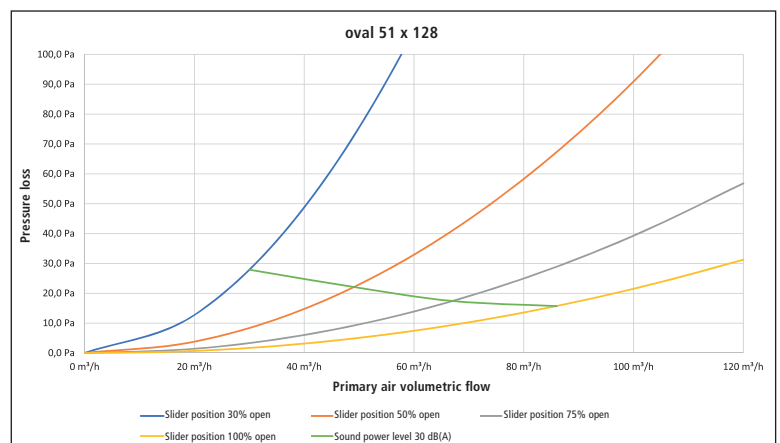
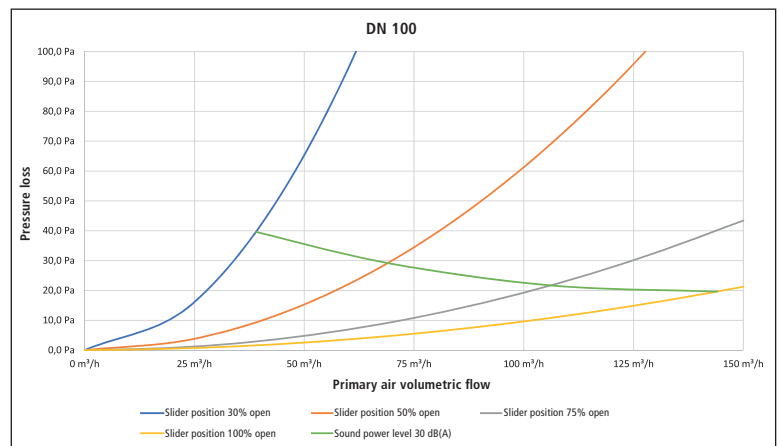
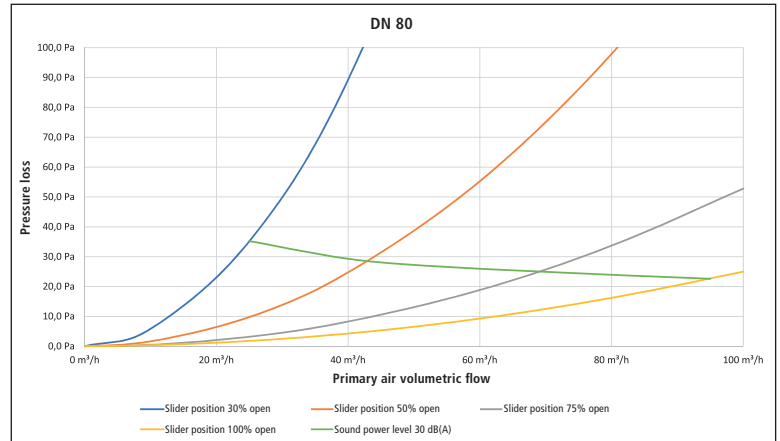
In individual cases, additional parameters, such as room and supply air humidity, as well as leaving air velocity, need to be taken into consideration (see DIN EN ISO 7730).

## Additional information

The supply air trenches Katherm ZL can be used for cooling, heating or isothermic air exchange using pre-conditioned primary air. A spigot or connection at the front end or underneath is also possible with appropriate trench dimensions and sufficient space in the air outlet area (check on request!).

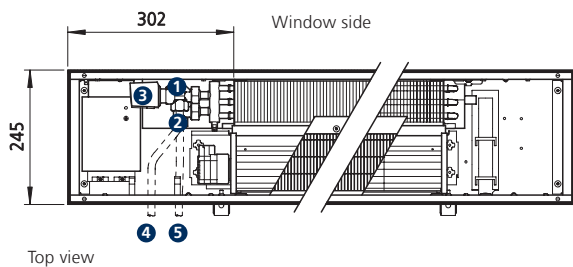
The upper limit value of the air volume flow in the spigot is calculated from the maximum air velocity and the cross-section of the spigot. This speed should not exceed 3.0 m/s to avoid additional sound emissions. The resulting air-side pressure losses vary according to the air volume flow as per the diagram. Diagram.

## Design diagrams



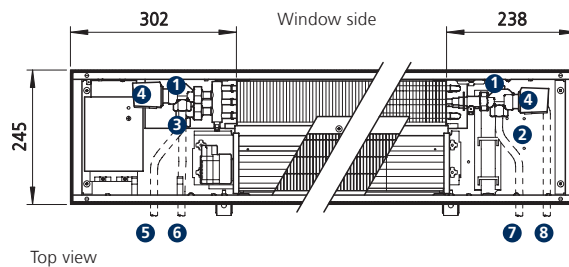
## Water connection – pipe opening

**Katherm HK 245/160, 2-pipe,  
trench height 160 mm**



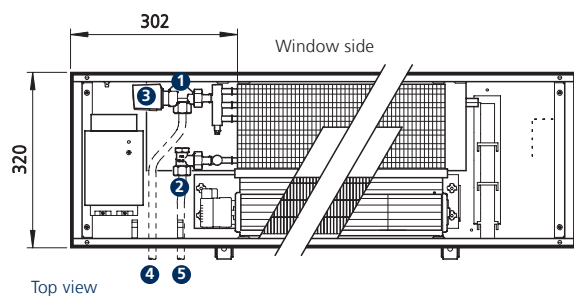
- ❶ 1/2" valve, axial
- ❷ 1/2" return shut-off valve, angled
- ❸ Thermoelectric actuator
- ❹ Heating / cooling supply
- ❺ Heating / cooling return

**Katherm HK 245/160, 4-pipe,  
trench height 160 mm**



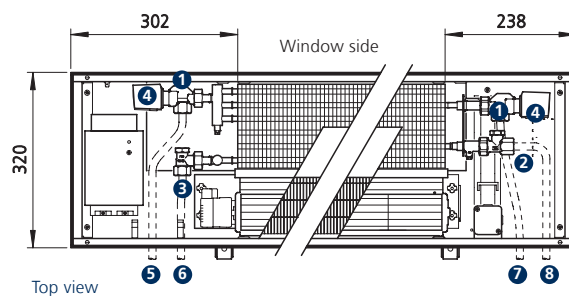
- ❶ 1/2" valve, axial
- ❷ 1/2" return shut-off valve, straight
- ❸ 1/2" return shut-off valve, angled
- ❹ Thermoelectric actuator
- ❺ Cooling supply
- ❻ Cooling return
- ❼ Heating supply
- ❽ Heating return

**Katherm HK 320/130, 2-pipe,  
trench height 130 mm**



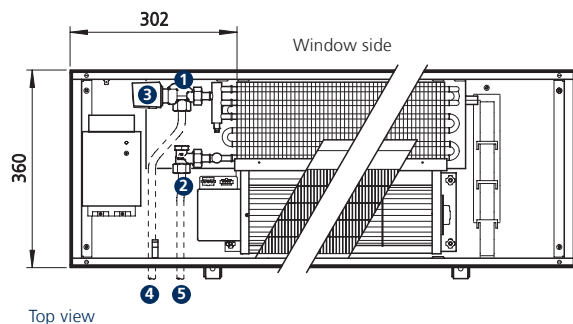
- ❶ 1/2" valve, axial
- ❷ 1/2" return shut-off valve, angled
- ❸ Thermoelectric actuator
- ❹ Heating / cooling supply
- ❺ Heating / cooling return

**Katherm HK 320/130, 4-pipe,  
trench height 130 mm**



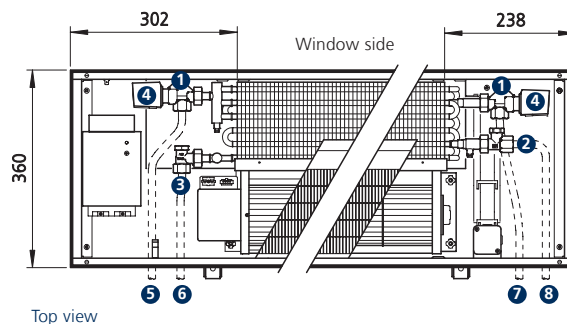
- ❶ 1/2" valve, axial
- ❷ 1/2" return shut-off valve, straight
- ❸ 1/2" return shut-off valve, angled
- ❹ Thermoelectric actuator
- ❺ Cooling supply
- ❻ Cooling return
- ❼ Heating supply
- ❽ Heating return

### Katherm HK 360/210, 2-pipe, trench height 210 mm



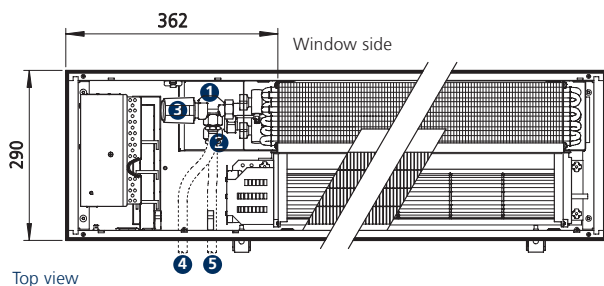
- ❶ 1/2" valve, axial
- ❷ 1/2" return shut-off valve, angled
- ❸ Thermoelectric actuator
- ❹ Heating / cooling supply
- ❺ Heating / cooling return

### Katherm HK 360/210, 4-pipe, trench height 210 mm



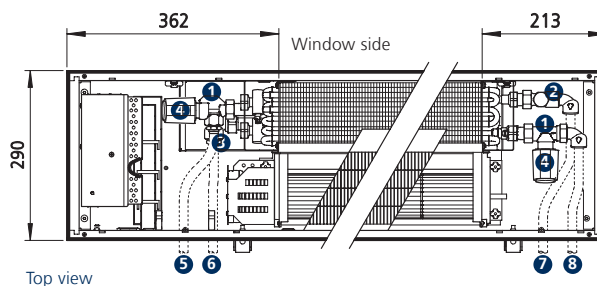
- ❶ 1/2" valve, axial
- ❷ 1/2" return shut-off valve, straight
- ❸ 1/2" return shut-off valve, angled
- ❹ Thermoelectric actuator
- ❺ Cooling supply
- ❻ Cooling return
- ❼ Heating supply
- ❽ Heating return

### Katherm HK 290/160, 2-pipe, trench height 160 mm



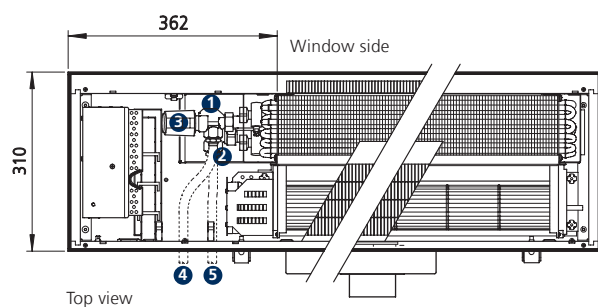
- ❶ 1/2" valve, axial
- ❷ 1/2" return shut-off valve, angled
- ❸ Thermoelectric actuator
- ❹ Heating / cooling supply
- ❺ Heating / cooling return

### Katherm HK 290/160, 4-pipe, trench height 160 mm



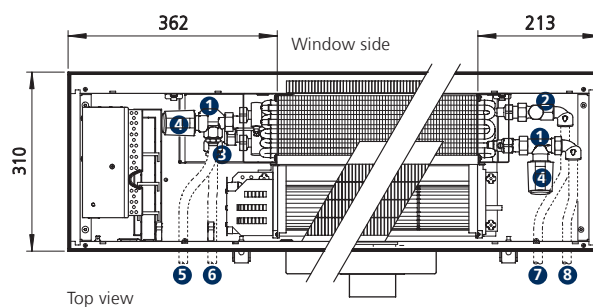
- ❶ 1/2" valves, axial (cooling), straight (heating)
- ❷ 1/2" return shut-off valve, straight
- ❸ 1/2" return shut-off valve, angled
- ❹ Thermoelectric actuator
- ❺ Cooling supply
- ❻ Cooling return
- ❼ Heating supply
- ❽ Heating return

**Katherm HK 310/180 P, 2-pipe,  
trench height 180 mm**



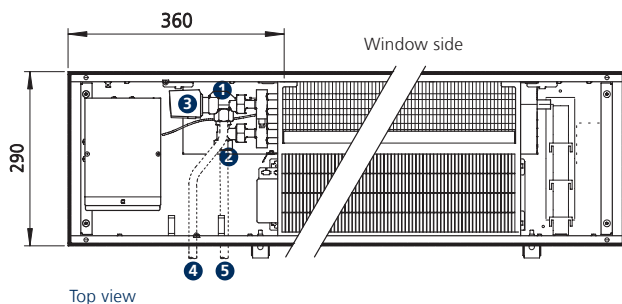
- ❶ 1/2" valve, axial
- ❷ 1/2" return shut-off valve, angled
- ❸ Thermoelectric actuator
- ❹ Heating / cooling supply
- ❺ Heating / cooling return

**Katherm HK 310/180 P, 4-pipe,  
trench height 180 mm**



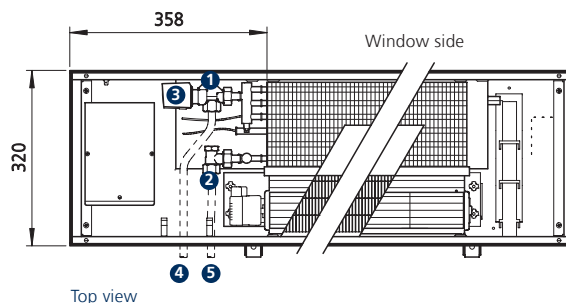
- ❶ 1/2" valves, axial (cooling), straight (heating)
- ❷ 1/2" return shut-off valve, straight
- ❸ 1/2" return shut-off valve, angled
- ❹ Thermoelectric actuator
- ❺ Cooling supply
- ❻ Cooling return
- ❼ Heating supply
- ❽ Heating return

**Katherm HK 290/160 E, 2-pipe,  
trench height 160 mm**



- ❶ 1/2" valve, axial
- ❷ 1/2" return shut-off valve, angled
- ❸ Thermoelectric actuator
- ❹ Heating / cooling supply
- ❺ Heating / cooling return

**Katherm HK 320/130 E,  
2-pipe, trench height 130 mm**

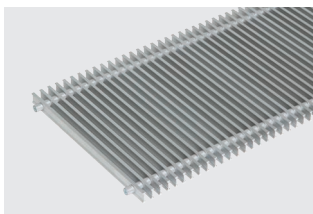


- ❶ 1/2" valve, axial
- ❷ 1/2" return shut-off valve, angled
- ❸ Thermoelectric actuator
- ❹ Heating / cooling supply
- ❺ Heating / cooling return

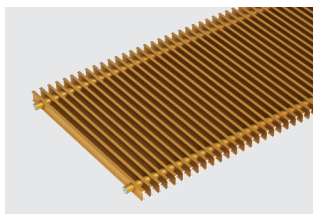
# Matching grilles

## Roll-up grille

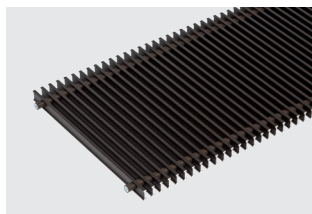
**Aluminium**  
Natural, anodised



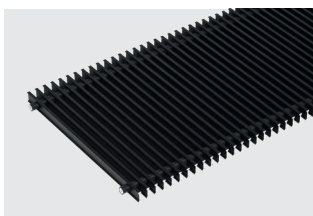
**Aluminium**  
Brass, anodised



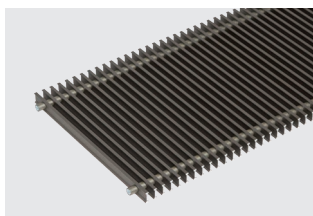
**Aluminium**  
Bronze, anodised



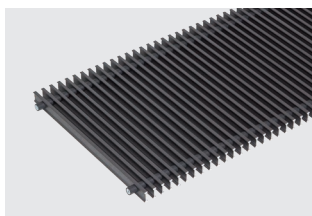
**Aluminium**  
Black, anodised



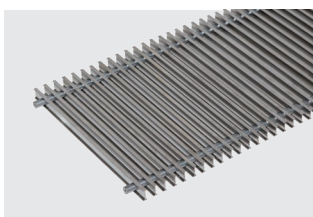
**Aluminium**  
Bronze finish



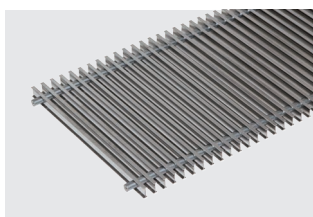
**Aluminium**  
Coated DB 703



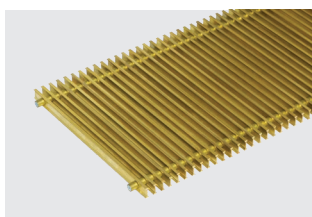
**Stainless steel**  
Natural



**Stainless steel**  
Polished

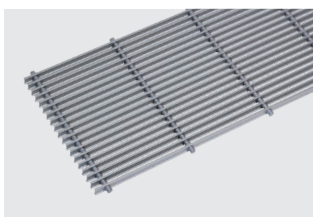


**Brass**  
Natural

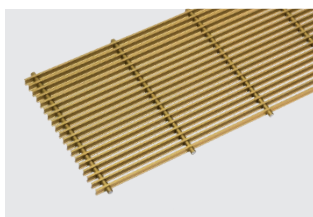


## Linear grilles

**Aluminium**  
Natural, anodised



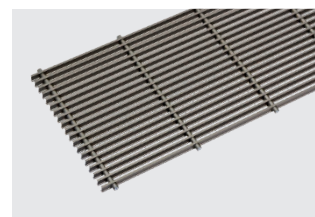
**Aluminium**  
Brass, anodised



**Aluminium**  
Bronze, anodised

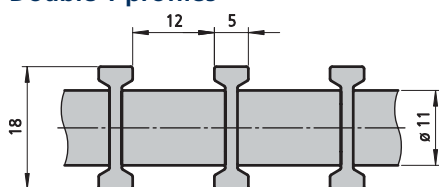


**Aluminium**  
Bronze finish

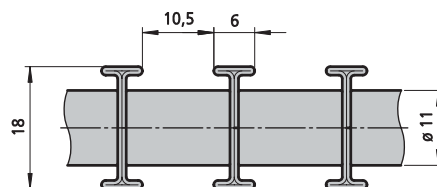


## Profile dimensions

### Double T-profiles



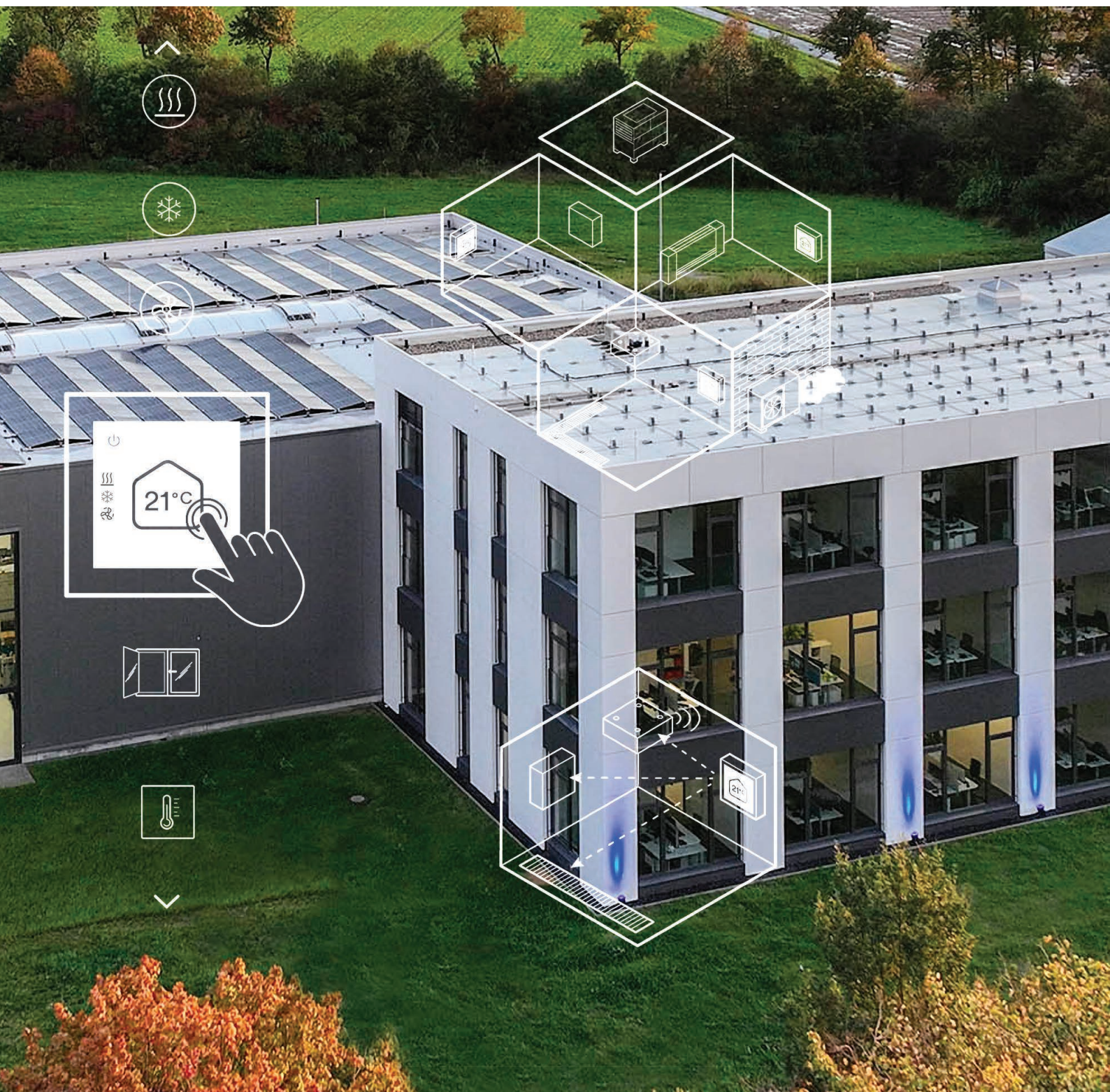
Aluminium, brass



Stainless steel

The grilles shown here are reproduced using a four-colour printing process and are therefore not an exact reproduction of the original colours.

# 04 ▶ Controls



## Extensive control options

Kampmann products are available with two control versions. The "electromechanical control" version (12 or 14-digit article number with the suffix 00) is ideal for control by the customer and for use with simple accessories, such as thermostats and fan speed controllers. The "KaControl MC" version (14-digit article number with the suffix M1 or M2) is an advanced and convenient solution for the control of individual rooms or for integration into an overall system. The required control version needs to be taken into account when selecting the unit, e.g. by selecting the article number with the suffix M1 or M2 with the KaControl MC version.

### Example of selecting the unit for control

Product range	Electromechanical	KaControl MC1	KaControl MC2
TOP unit heaters	153000473058	153000473058M1	153000473058M2
KaDeck fan coils	32612626211100	326126262111M1	326126262111M2
Katherm HK	14329261111900	143292611119M1	143292611119M2

#### Electromechanical control

With the electromechanical version, all factory-fitted actuators are wired to the terminal. This also includes factory-fitted accessories, such as valve actuators and condensate pumps. Suitable support terminals are also available for on-site installation. The speed of the built-in EC fans can be infinitely controlled via a 0-10 V DC signal. "Intelligent" motor electronics built into the fans continuously monitor operation and detect potential motor malfunctions. In the event of a malfunction, the fan shuts down automatically. Either thermostats supplied by the customer or a building

management system (BMS) can be used to operate and control the units. Kampmann also offers an extensive range of controllers as accessories.



#### KaControl MC control

KaControl MC is a fully-fledged comfort control which can be used to control individual rooms, groups of units, and even entire systems including ventilation units and heat generators. It can be operated either via a modern, design-orientated touch display or a user-friendly web interface. KaControl MC controls and monitors all functions of the connected units in all respects and is the optimum solution for communication with a BMS (building control system). This is possible because one controller (Smartboard M) is assigned to each unit.

All KaControl MC devices are equipped with the hardware for all common communication protocols (Modbus RTU, Modbus TCP, BACnet IP and KNX TP) as standard. The respective interface can be activated at the factory or on site by means of a permanent licence.



Ausführliche Informationen zur unserer Regelungstechnik und Regelungsvarianten finden Sie unter:




► [kampmanngroup.com/control](http://kampmanngroup.com/control)



# 05 ▶ Accessories

Article	Article	Properties	Dimensions	Suitable for	Article no.
			[mm]		
<b>Valve kits</b>					
		2-pipe, Includes 1x differential pressure-independent straight valve, 1x return shut-off valve, angled, 2x flexible stainless steel corrugated pipes, 1x bracket heating-side, Connection 1/2", Max. operating pressure 10 bar, supplied separately	250 x 120 x 480	Katherm HK, Min. Flow volume 105 l/h, max. Flow volume 1050 l/h, DN 15	<b>194001433920</b>
		2-pipe, Includes 1x differential pressure-independent axial valve, 1x return shut-off valve, angled, 2x flexible stainless steel corrugated pipes, Connection 1/2", Max. operating pressure 10 bar, supplied separately	250 x 120 x 480	Katherm HK, Min. Flow volume 35 l/h, max. Flow volume 420 l/h, DN 15	<b>194001433520</b>
		4-pipe, Includes 2x differential pressure-independent valves, straight, 2x return shut-off valves, angled and straight, 4x flexible stainless steel corrugated pipes, 2x brackets on the heating side, Connection 1/2", Max. operating pressure 10 bar, supplied separately	280 x 120 x 480	Katherm HK, Min. Flow volume 105 l/h, max. Flow volume 1050 l/h, DN 15	<b>194001433941</b>
		4-pipe, Connection 1/2", Max. operating pressure 10 bar, supplied separately	280 x 120 x 480	Katherm HK, Min. Flow volume 35 l/h, max. Flow volume 420 l/h, DN 15	<b>194001433540</b>
		4-pipe, Includes 2x differential pressure-independent valves, axial and straight, 2x return shut-off valves, angled and straight, 4x flexible stainless steel corrugated pipes, 2x brackets on the heating side, Connection 1/2", Max. operating pressure 10 bar, supplied separately	280 x 120 x 480	Katherm HK, Min. Flow volume 35 l/h, max. Flow volume 420 l/h, DN 15	<b>194001433541</b>
		2-pipe, Includes 1x pre-settable axial valve, 1x return shut-off valve, angled, 2x flexible stainless steel corrugated pipes, Connection 1/2", Max. operating pressure 10 bar, supplied separately	250 x 120 x 480	Katherm HK, max. Flow volume 920 l/h, DN 15	<b>194001433720</b>
		2-pipe, Includes 1x pre-settable axial valve, 1x return shut-off valve, angled, 2x flexible stainless steel corrugated pipes, Connection 1/2", Max. operating pressure 10 bar, supplied separately	250 x 120 x 480	Katherm HK, max. Flow volume 260 l/h, DN 15	<b>194001433120</b>
		4-pipe, Includes 2x pre-settable valves, axial, 2x return shut-off valves, angled and straight, 4x flexible stainless steel corrugated pipes, 1x bracket on the heating side, Connection 1/2", Max. operating pressure 10 bar, supplied separately	280 x 120 x 480	Katherm HK, max. Flow volume 920 l/h, DN 15	<b>194001433740</b>











CONTINUED ▶

Article	Article	Properties	Dimensions	Suitable for	Article no.
			[mm]		
		4-pipe, Includes 2x pre-settable valves, axial and straight, 2x return shut-off valves, angled and straight, 4x flexible stainless steel corrugated pipes, 2x brackets on the heating side, Connection 1/2", Max. operating pressure 10 bar, supplied separately	280 x 120 x 480	Katherm HK, max. Flow volume 920 l/h, DN 15	<b>194001433741</b>
		4-pipe, Includes 2x pre-settable valves, axial, 2x return shut-off valves, angled and straight, 4x flexible stainless steel corrugated pipes, 1x bracket on the heating side, Connection 1/2", Max. operating pressure 10 bar, supplied separately	280 x 120 x 480	Katherm HK, max. Flow volume 260 l/h, DN 15	<b>194001433140</b>
		4-pipe, Includes 2x pre-settable valves, axial and straight, 2x return shut-off valves, angled and straight, 4x flexible stainless steel corrugated pipes, 2x brackets on the heating side, Connection 1/2", Max. operating pressure 10 bar, supplied separately	280 x 120 x 480	Katherm HK, max. Flow volume 260 l/h, DN 15	<b>194001433141</b>




**Valve actuators, supplied loose**

	valve actuator	Drive T, 24 V AC/DC, 2-point, normally closed, 0.5m connecting line-MB2, PVC, VA10N, 1 W, Protection class III, Protection class IP 54 Cable length 0.12 m, supplied separately, made of Polyamide	74 x 50 x 89	All units with electro-mechanical control configuration, KaControl MC1, KaControl C1 in conjunction with 2-way valve or differential pressure-independent valve	<b>1960TS0P24050010B</b>
	valve actuator	Drive T, 230 V AC, 2-point, normally closed, 0.5m connecting line-AEH, PVC, VA10N, 1 W, Protection class II, Protection class IP 54 Cable length 0.12 m, supplied separately, made of Polyamide	74 x 50 x 89	All units with electro-mechanical control configuration in conjunction with 2-way valve or differential pressure-independent valve	<b>1960TS0P02050010B</b>
	valve actuator	Drive T, 230 V AC, 2-point, normally closed, 0.5m connecting line-MB2, PVC, VA10N, 1 W, Protection class II, Protection class IP 54 Cable length 0.12 m, supplied separately, made of Polyamide	74 x 50 x 89	All units with electro-mechanical control configuration in conjunction with 2-way valve or differential pressure-independent valve	<b>1960TS0P22050010B</b>
	valve actuator	Drive T, 24 V AC/DC, 2-point, normally closed, 0.5m connecting line-AEH, PVC, VA10N, 1 W, Protection class II, Protection class IP 54 Cable length 0.12 m, supplied separately, made of Polyamide	74 x 50 x 89	All units with control configuration KaControl C1 in conjunction with 2-way valve or differential pressure-independent valve	<b>1960TS0P04050010B</b>


CONTINUED ►

Article	Article	Properties	Dimensions	Suitable for	Article no.
			[mm]		
<b>Valves and return shut-off valves</b>					
	Differential pressure-independent valve kit	Connection 1/2", Max. operating pressure 10 bar, supplied separately	51 x 33 x 114	Katherm NK, Katherm QK, Katherm HK, Min. Flow volume 35 l/h, max. Flow volume 420 l/h, DN 15	<b>194000347914</b>
	Differential pressure-independent valve kit	Connection 1/2", Max. operating pressure 10 bar, supplied separately	33 x 60 x 95	Katherm NK, Katherm QK, Katherm HK, Min. Flow volume 35 l/h, max. Flow volume 420 l/h, DN 15	<b>194000347913</b>
	Differential pressure-independent valve kit	Connection 1/2", Max. operating pressure 10 bar, supplied separately	80 x 50 x 120	Katherm NK, Katherm QK, Katherm HK, Min. Flow volume 105 l/h, max. Flow volume 1050 l/h, DN 15	<b>194000347915</b>
	Pre-adjustable valve kit	straight, pre-settable, Connection 1/2", Max. operating pressure 10 bar, supplied separately	35 x 50 x 115	Katherm NK, Katherm QK, Katherm HK, max. Flow volume 920 l/h, DN 15	<b>194000346918</b>
	Pre-adjustable valve kit	Axial, pre-settable, Connection 1/2", Max. operating pressure 10 bar, supplied separately	51 x 33 x 114	Katherm NK, Katherm QK, Katherm HK, max. Flow volume 260 l/h, DN 15	<b>194000346911</b>
	Pre-adjustable valve kit	Axial, pre-settable, Connection 1/2", Max. operating pressure 10 bar, supplied separately	35 x 50 x 110	Katherm NK, Katherm QK, Katherm HK, max. Flow volume 920 l/h, DN 15	<b>194000346914</b>
	Pre-adjustable valve kit	straight, pre-settable, Connection 1/2", Max. operating pressure 10 bar, supplied separately	33 x 60 x 95	Katherm NK, Katherm QK, Katherm HK, max. Flow volume 260 l/h, DN 15	<b>194000346909</b>
	Pre-setting key	Once per project necessary.	20 x 20 x 60	pre-settable valve bodies, valve kits and convector connection kit	<b>194000346915</b>
	Pre-setting set	Once per project necessary.	40 x 55 x 55	pre-settable valve bodies and valve kits with higher flow from 250 l/h	<b>194000346916</b>
	Return shut-off valve	2- and 4-pipe, Straight, Connection 1/2", Max. operating pressure 10 bar, supplied separately	80 x 60 x 100	Katherm NK, Katherm QK, Katherm HK, max. Flow volume 610 l/h, DN 15	<b>194000145952</b>

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Article	Article	Properties	Dimensions	Suitable for	Article no.
			[mm]		
	Return shut-off valve	2- and 4-pipe, angled, Connection 1/2", Max. operating pressure 10 bar, supplied separately	22 x 50 x 73	Katherm NK, Katherm QK, Katherm HK, max. Flow volume 610 l/h, DN 15	<b>194000145953</b>
	Return shut-off valve	2- and 4-pipe, Straight, Connection 1/2", Max. operating pressure 10 bar, supplied separately	62 x 35 x 95	Katherm NK, Katherm QK, Katherm HK, max. Flow volume 920 l/h, DN 15	<b>194000145954</b>
	Return shut-off valve	2- and 4-pipe, angled, Connection 1/2", Max. operating pressure 10 bar, supplied separately	33 x 74 x 71	Katherm NK, Katherm QK, Katherm HK, max. Flow volume 920 l/h, DN 15	<b>194000145955</b>





**Filter**

	Filter for air inlet	2- and 4-pipe, Replacement filter without frame, ISO Coarse 30% filter (G2)	130 x 4 x 415	Length 950 mm	<b>143014316014</b>
			130 x 8 x 325	Length 1200 mm	<b>143014316019</b>
			130 x 12 x 415	Length 1700 mm	<b>143014316029</b>
			130 x 16 x 350	Length 2000 mm	<b>143014316035</b>
			130 x 20 x 415	Length 2500 mm	<b>143014316045</b>
			130 x 24 x 375	Length 3000 mm	<b>143014316055</b>
			115 x 4 x 380	Length 915 mm	<b>143014313013</b>
			115 x 8 x 325	Length 1200 mm	<b>143014313019</b>
			115 x 12 x 380	Length 1700 mm	<b>143014313029</b>
			115 x 16 x 325	Length 2000 mm	<b>143014313035</b>
			115 x 20 x 380	Length 2500 mm	<b>143014313045</b>
			115 x 24 x 380	Length 3000 mm	<b>143014313055</b>
			160 x 4 x 400	Length 950 mm	<b>143014321014</b>
			160 x 4 x 660	Length 1200 mm	<b>143014321019</b>
			160 x 8 x 800	Length 1350 mm	<b>143014321022</b>
			160 x 8 x 400	Length 1850 mm	<b>143014321032</b>
			160 x 8 x 800	Length 2250 mm	<b>143014321040</b>
			130 x 8 x 850	Length 830 - 1370 mm	<b>143014349011</b>
			130 x 8 x 1700	Length 1340 - 2180 mm	<b>143014349012</b>
			130 x 8 x 2550	Length 2150 - 2990 mm	<b>143014349013</b>


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Article	Article	Properties	Dimensions	Suitable for	Article no.
			[mm]		

**Condensate tray/pump**

	Connection kit for condensate pump	100 - 240 V AC, 6 W, Protection class IP 44, supplied separately	240 x 230 x 380	Katherm HK, Katherm HK P, Width 290 mm and 310 mm	194000143840	
	Connection kit for condensate pump	100 - 240 V AC, 6 W, Protection class IP 44, factory-fitted		Katherm HK, Katherm HK P, Width 290 mm and 310 mm	194000143841	
	Connection kit for condensate pump	230 V 50 Hz, 20 W, Protection class II, supplied separately	200 x 100 x 400	Katherm HK, Width 245 mm	194000143819	
				Katherm HK, Width 290 mm	194000143815	
		230 V 50 Hz, 20 W, Protection class II, factory-fitted			194000143813	
					194000143820	
				Katherm HK, Katherm HK E, Width 290 mm	194000143816	
	fitting kit for natural condensate drain	supplied separately	100 x 50 x 150	Katherm HK	194000143814	
		factory-fitted		Katherm HK	194000143817	


**Installation covers**

	Installation cover	to protect trench during installation, factory-fitted, grilles are packed separately price per m	230 x 18 x 1000	Katherm HK 245	<b>194000100245</b>
			275 x 19 x 1000	Katherm HK 290	<b>194000100290</b>
			305 x 19 x 1000	Katherm HK 320	<b>194000100320</b>
			345 x 19 x 1000	Katherm HK 360	<b>194000100360</b>
			295 x 18 x 1000	Katherm HK 310 P	<b>194000100310</b>

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Article	Article	Properties	Dimensions	Suitable for	Article no.
			[mm]		

**Galvanised steel components**

	1x Primary air module	with air spigot and air slider, includes primary air spigot with air volume slider mounted on the underfloor convector for each connection module	295 x 160 x 335	Number of connecting pieces 1 piece(s), Katherm HK P and Trench Technology, DN 80	<b>1430143500310</b>
	2x Primary air module	with air spigot and air slider, includes primary air spigot with air volume slider mounted on the underfloor convector for each connection module	590 x 160 x 335	Number of connecting pieces 2 piece(s), Katherm HK P and Trench Technology, DN 80	<b>1430143500311</b>
	3x Primary air module	with air spigot and air slider, includes primary air spigot with air volume slider mounted on the underfloor convector for each connection module	885 x 160 x 335	Number of connecting pieces 3 piece(s), Katherm HK P and Trench Technology, DN 80	<b>1430143500312</b>
	4x Primary air module	with air spigot and air slider, includes primary air spigot with air volume slider mounted on the underfloor convector for each connection module	1180 x 160 x 335	Number of connecting pieces 4 piece(s), Katherm HK P and Trench Technology, DN 80	<b>1430143500313</b>
	5x Primary air module	with air spigot and air slider, includes primary air spigot with air volume slider mounted on the underfloor convector for each connection module	1475 x 160 x 335	Number of connecting pieces 5 piece(s), Katherm HK P and Trench Technology, DN 80	<b>1430143500314</b>
	6x Primary air module	with air spigot and air slider, includes primary air spigot with air volume slider mounted on the underfloor convector for each connection module	1770 x 160 x 335	Number of connecting pieces 6 piece(s), Katherm HK P and Trench Technology, DN 80	<b>1430143500315</b>
	7x Primary air module	with air spigot and air slider, includes primary air spigot with air volume slider mounted on the underfloor convector for each connection module	2065 x 160 x 335	Number of connecting pieces 7 piece(s), Katherm HK P and Trench Technology, DN 80	<b>1430143500316</b>
	8x Primary air module	with air spigot and air slider, includes primary air spigot with air volume slider mounted on the underfloor convector for each connection module	2360 x 160 x 335	Number of connecting pieces 8 piece(s), Katherm HK P and Trench Technology, DN 80	<b>1430143500317</b>

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