Trench Heating/Cooling

Katherm HK

Tested acc. to:

EN 16430

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Improved performance

The narrower trench widths and shallower trench heights of the Katherm HK deliver an optimised output range for on-demand heating and cooling from the floor. With its new incremental lengths and widths, the Katherm HK is the solution for the most diverse building requirements.

Innovative

The Katherm HK has been further developed in the Kampmann Research & Development Center. With revised components, like the tangential fan, high-output coil and the modified design chassis, the new Katherm HK provides optimised air flow foreven higher performance.

Energy-efficient

State-of-the-art EC tangential fans with low power consumption ensure energy-saving operation combined with low sound levels. The fixing system in the floor trench, perfected over many years, which also incorporates sound decoupling ensures that the unit can be quickly and easily removed for cleaning and maintenance.

Hygiene-compliant

It’s unique! Thanks to improved condensate drainage in cooling mode, coupled with the ease of cleaning of the condensate tray, the Katherm HK is totally hygienic!

Intelligent

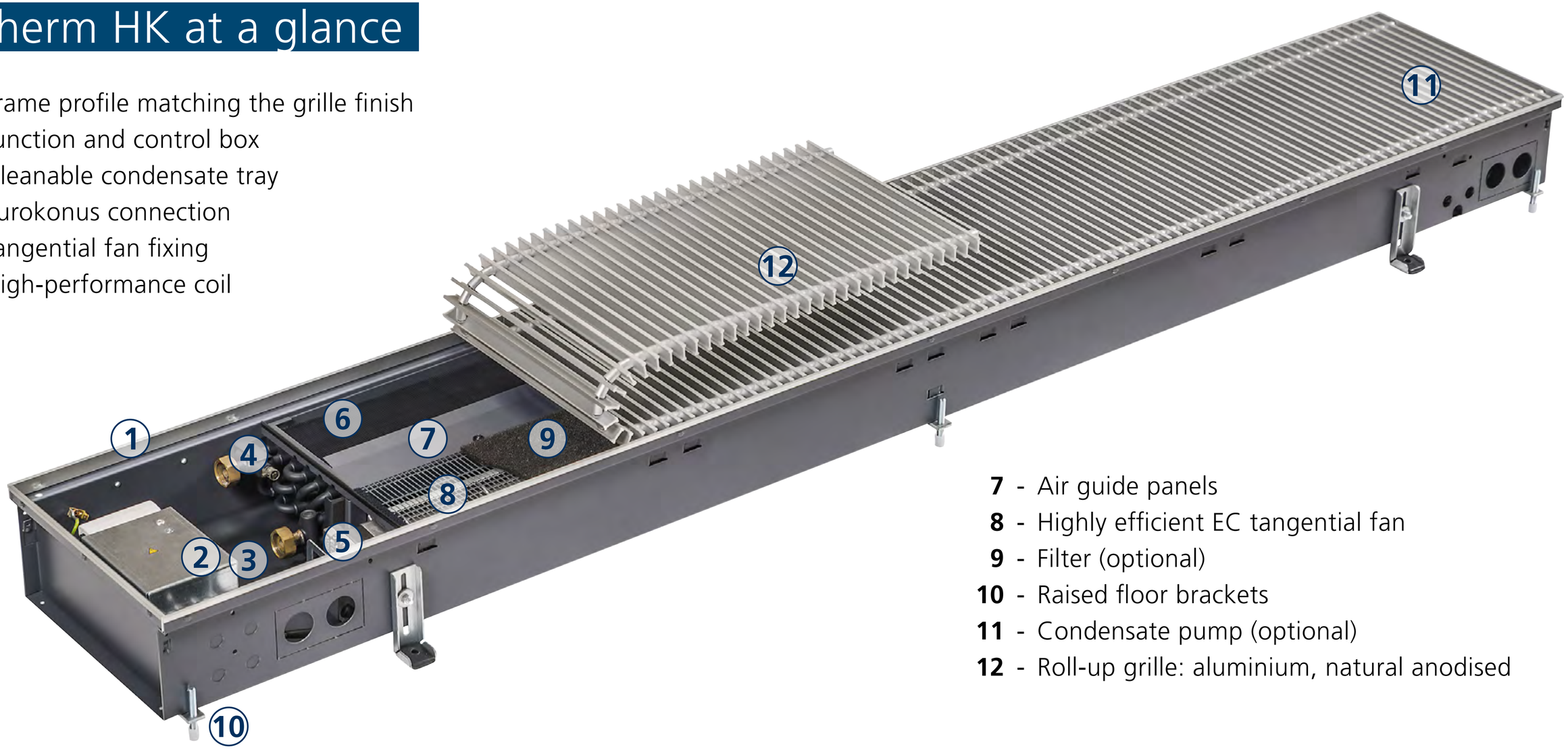
Katherm HK trench units can be equipped with the KaControl intelligent room automation. This can be factory-fitted and can be used with KaControl networks or for building management systems, like KNX, Modbus or LON, meeting the exacting requirements of state-of-the-art building automation systems.

Air flow-optimised

The arrangement and air guidance have both been optimised on the Katherm HK and guarantee maximum comfort levels in all rooms.The unit is enhanced with air flow-optimised roll-up and linear grilles.

Katherm HK at a glance

1 - Frame profile matching the grille finish
2 - Junction and control box
3 - Cleanable condensate tray
4 - Eurokonus connection
5 - Tangential fan fixing
6 - High-performance coil



7 - Air guide panels
8 - Highly efficient EC tangential fan
9 - Filter (optional)
10 - Raised floor brackets
11 - Condensate pump (optional)
12 - Roll-up grille: aluminium, natural anodised

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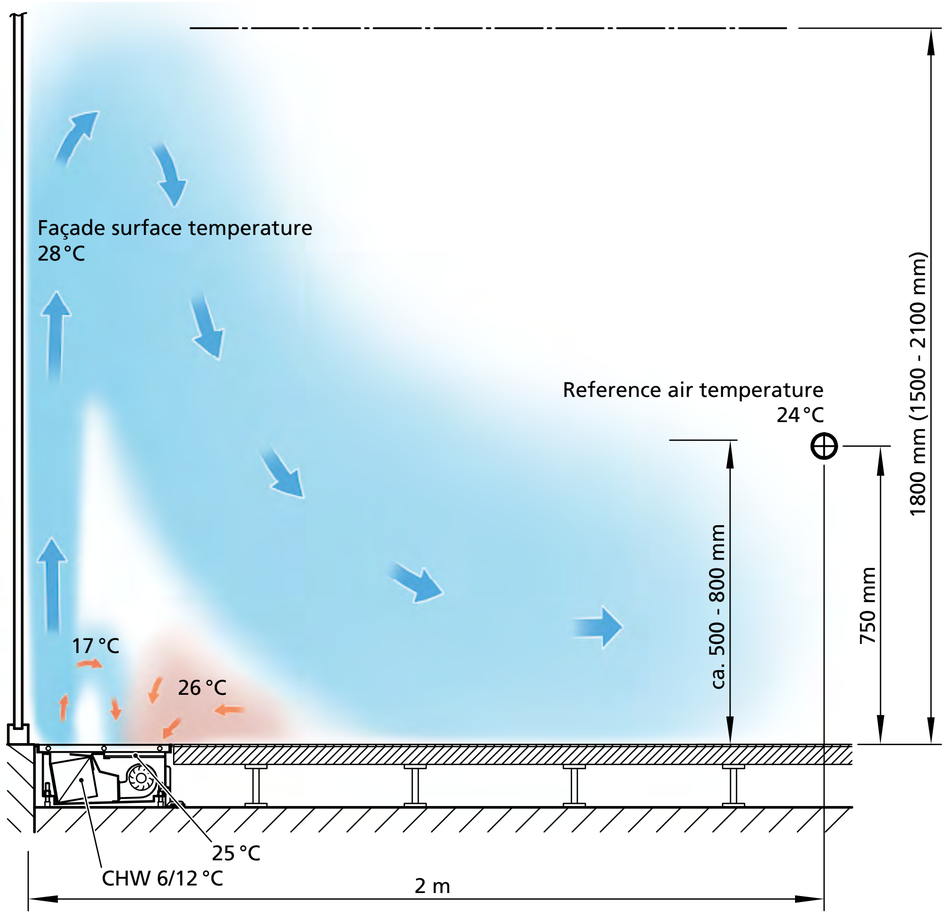
Katherm HK with short-cut optimised air outlet



The diagram shows the the air flow of short-cut optimised heating/cooling trenches in cooling mode.

With the short-cut optimised model the air at the façade rises significantly higher, blends and penetrates deeper into the room at a higher temperature. The result is a more even temperature distribution and higher comfort in the occupied zone.

The development and design of the Katherm HK have been optimised to minimise the short-cut as far as technically possible. All performance data refer to thereference air temperature measured at a distance of 2 m from the façade, 0.75 m above floor level.

Junction and control box

- control options: KaControl (-C1) or BMS-Interface/ electromechanical (-00)
- incl. factory fitted transformer

Condensate tray/pump

- for safe discharge of the condensate and simultaneous air guidance
- specifically designed for simple cleaning in line with the hygienic standards
- can be removed to the room side for ease of cleaning
- condensate pump (accessory) to drain condensate, if needed

Tangential fan fixing

- easy removal of tangential fan without tool
- novl coupling/cone pin system
- simultaneous sound decoupling

High-performance coil

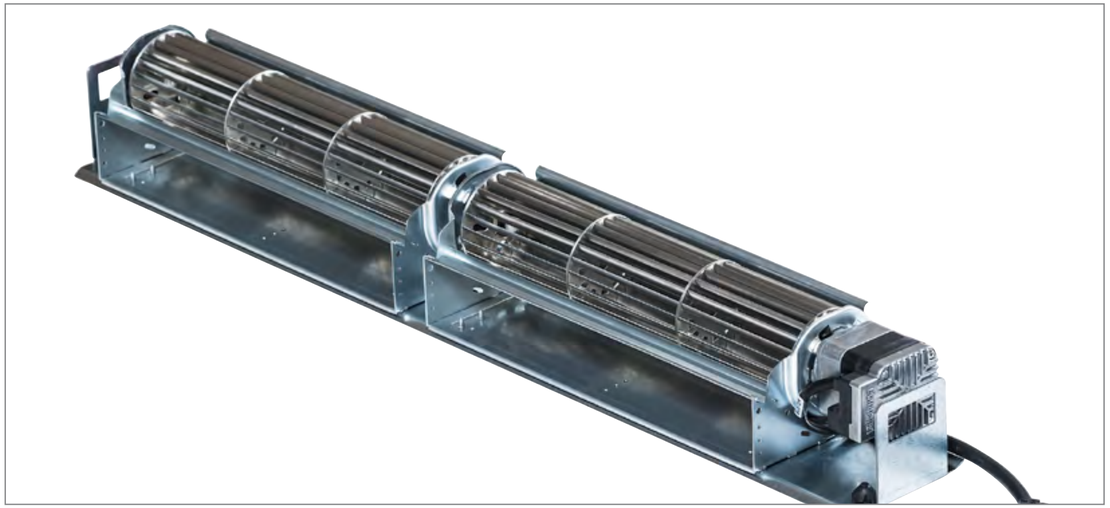
- made of the proven combination of copper/aluminium
- optimised for air flow and thermal performance
- Eurokonus valve connection

Air guide panels

- act as a finger guard for the tangential fan, filter frame, airflow baffle, grille seat and reinforcing stay to strengthen the trench

Highly efficient EC tangential fan

- energy-saving, with flow-optimised impellers, cascaded arrangement as a continuous fan belt
- easily removeable, plug & play fan
- even air flow through convector
- robust and whisper-quiet motor design
- continuously variable control via external 0-10 V signal



Supply air module

- for inducing pre-conditioned supply air
- primary air volume can be adjusted
- max. air volume per module = 60 m³/h
- amount of modules selectable depending on trench length
- change in trench dimensions: trench width + 20 mm; trench height + 35 mm

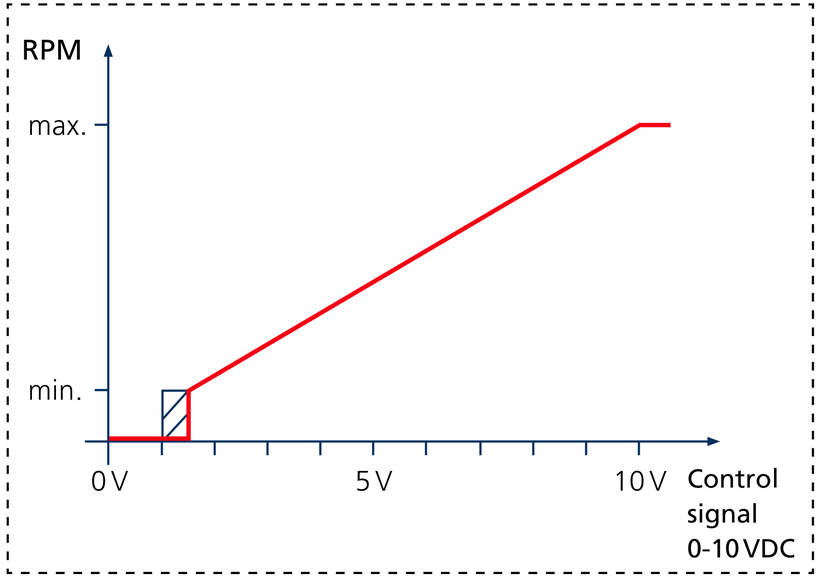
Control options

KaControl room automation

- KaControl technology factory-integrated for setting up entire networked systems based on the KaControl
- Interfaces for KNX or Modbus building automation as an optional plug-in group
- 0-10 V analogue input for control of fan and valve via a single data point
- Design room control unit with intuitive user navigation
- Integrated timer program

BMS-Interface/electromechanical (-00)

- Power supply: 230V/50 Hz via factory fitted transformer
- Fan speed control 0-100% via 0-10 VDC BMS contact
- Valve control, direct by BMS



0 - 1,5 V = device OFF
1,5 - 10 V = fan speed min... 100 %

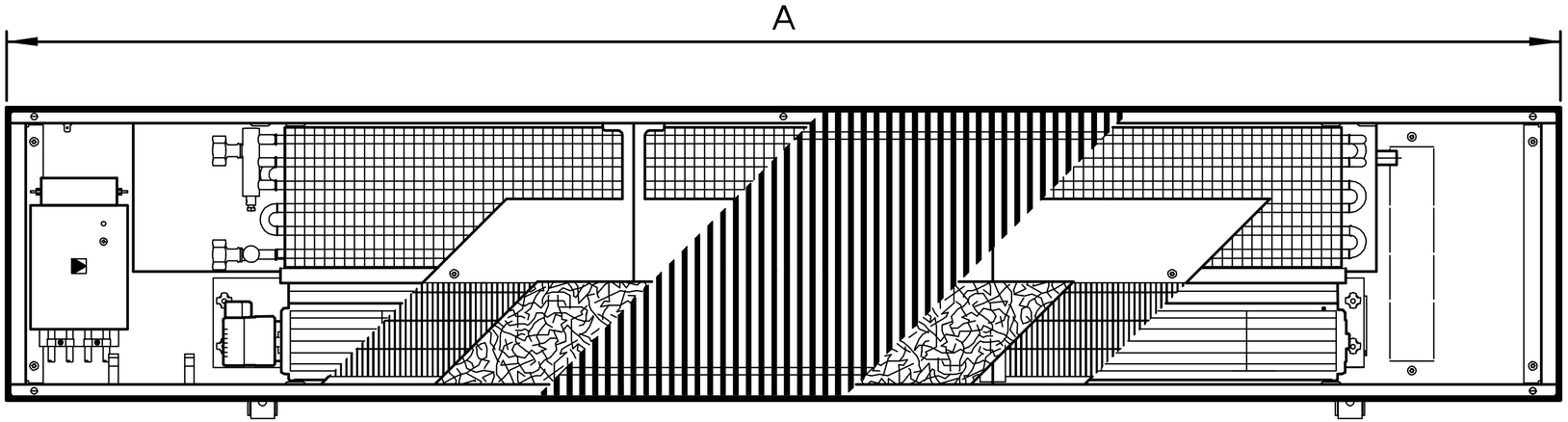
Control via BMS-system

Performance data according to EN 16430

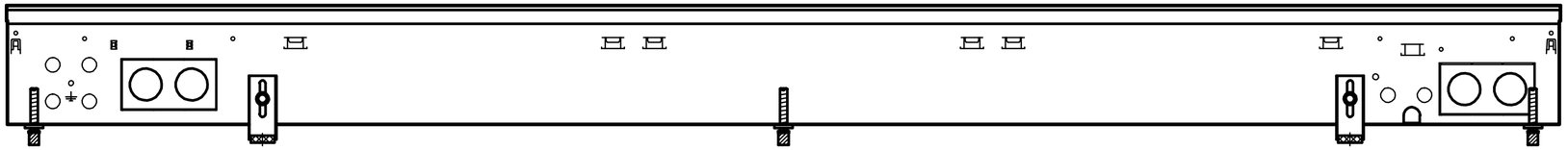
Unit width	Unit height	Unit length	Heat output [1]		Sensible cooling output [2]		Sound pressure [3] [4]	Sound power level [4]
A	B	C	2-pipe	4-pipe	2-pipe	4-pipe		
[mm]	[mm]	[mm]	[W]	[W]	[W]	[W]	[dB(A)]	[dB(A)]
915	320	130	690 – 2075	530 – 1206	87 – 360	87 – 355	<20 – 39	<28 – 47
1200	320	130	1176 – 3602	936 – 2180	150 – 634	149 – 624	<20 – 41	<28 – 49
1700	320	130	2135 – 6040	1720 – 3787	272 – 1064	272 – 1047	<20 – 41	<28 – 49
2000	320	130	2404 – 7512	1985 – 4755	310 – 1342	305 – 1321	<20 – 44	<28 – 52
2500	320	130	3363 – 10026	2773 – 6361	429 – 1765	428 – 1738	<20 – 44	<28 – 52
3000	320	130	4324 – 12479	3561 – 7967	552 – 2188	550 – 2155	<20 – 44	<28 – 52
950	290	160	780 – 2338	602 – 1357	82 – 415	86 – 398	<20 – 36	<28 – 44
1200	290	160	1312 – 3967	1030 – 2340	141 – 720	147 – 690	<20 – 38	<28 – 46
1700	290	160	2125 – 6487	1695 – 3888	229 – 1195	239 – 1142	<20 – 40	<28 – 48
2000	290	160	2765 – 8457	2214 – 5084	298 – 1566	313 – 1496	<20 – 41	<28 – 49
2500	290	160	3579 – 10986	2881 – 6642	388 – 2042	402 – 1918	<20 – 42	<28 – 50
3000	290	160	4646 – 14278	3749 – 8645	501 – 2665	526 – 2511	<20 – 43	<28 – 51

[1] Heat output per Katherm HK, with an average speed setting 60%, at LPHW 75/65 °C, room air temperature 20 °C
[2] Cooling output per Katherm HK, with an average speed setting 60%, at CHW 6/12 °C, room air temperature 24 °C, 50% relative humidity
[3] 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, at 60% fan speed.
[4] Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

Dimensions

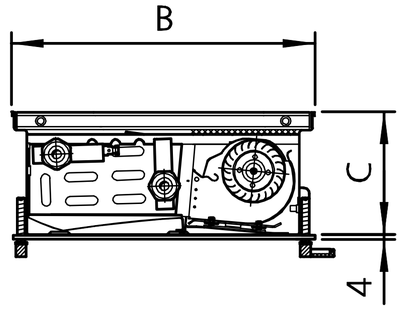


Plan view



Front view

Unit width	Unit height	Unit length
B	C	A
[mm]	[mm]	[mm]
320	130	915
320	130	1200
320	130	1700
320	130	2000
320	130	2500
320	130	3000
290	160	950
290	160	1200
290	160	1700
290	160	2000
290	160	2500
290	160	3000



Cross-sectional view

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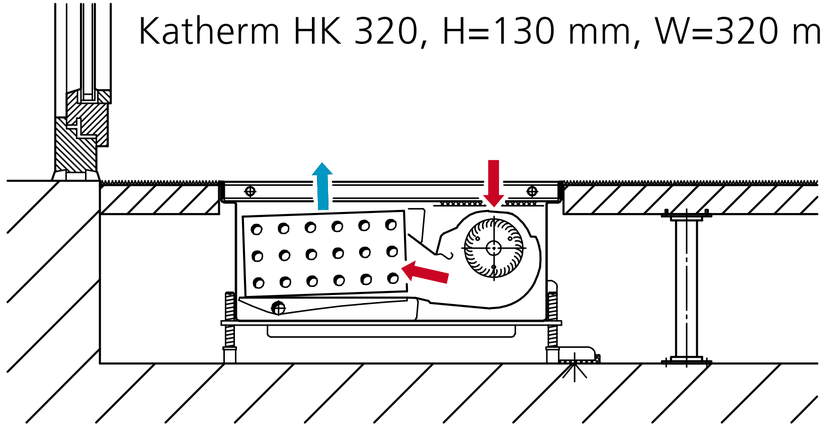
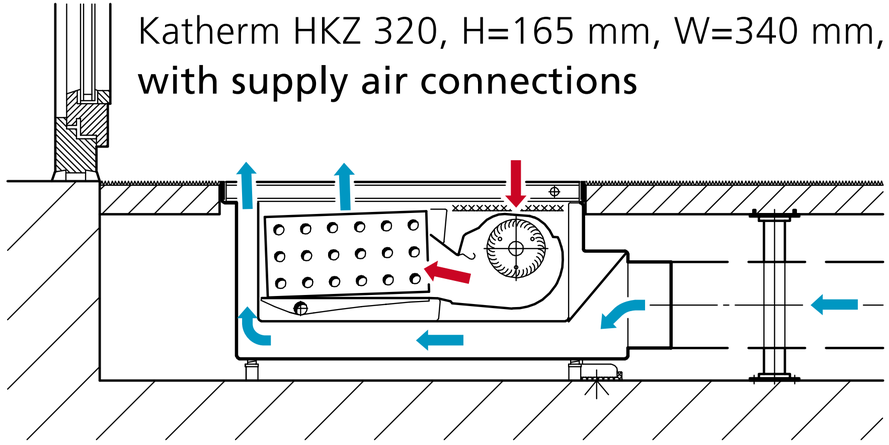
Cross-sections

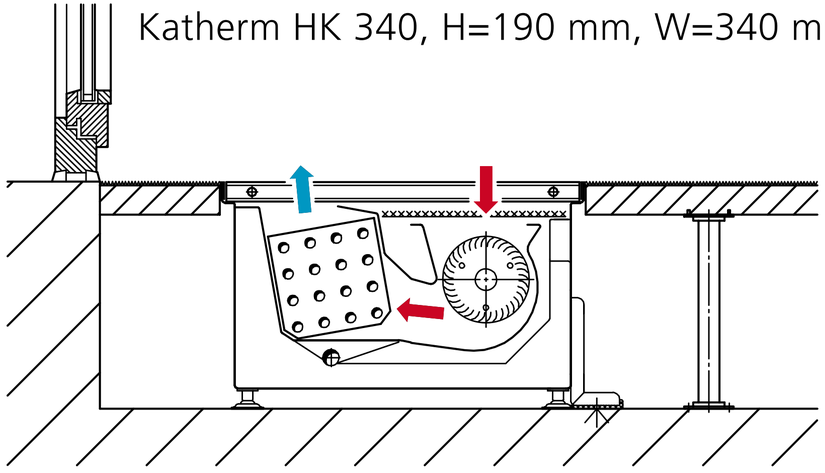
Katherm HK 320, H=130 mm, W=320 mm, 4-pipe



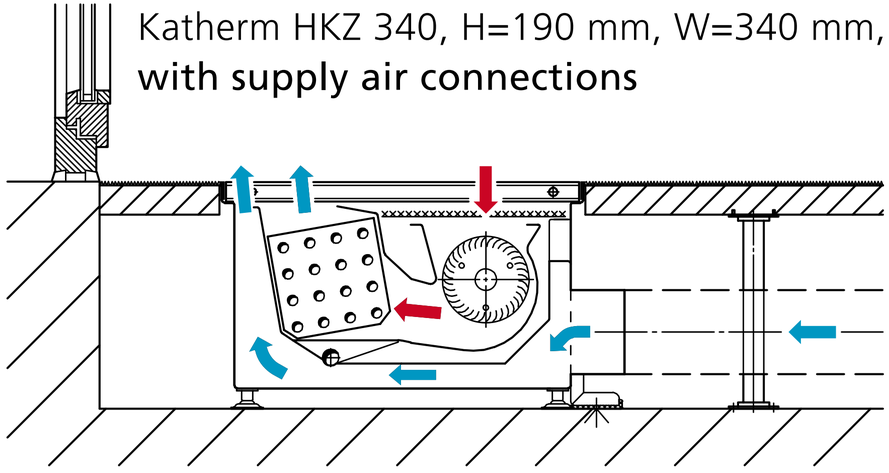
Katherm HKZ 320, H=165 mm, W=340 mm, 4-pipe, **with supply air connections**



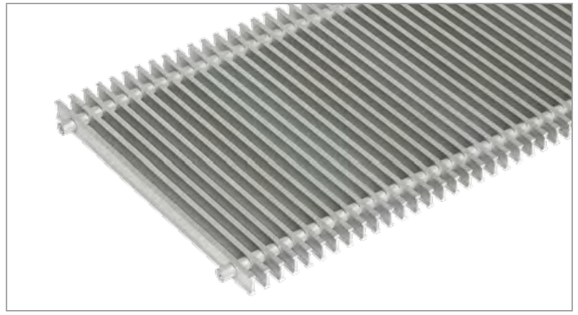
Katherm HK 340, H=190 mm, W=340 mm, 4-pipe

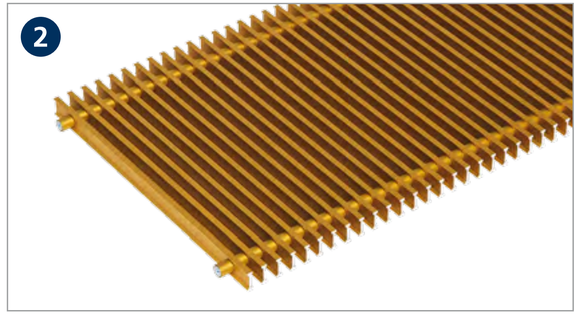


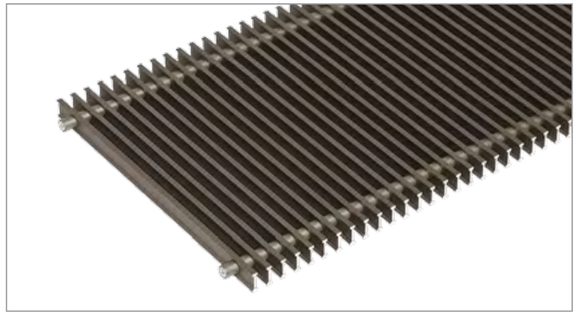
Katherm HKZ 340, H=190 mm, W=340 mm, 4-pipe, **with supply air connections**

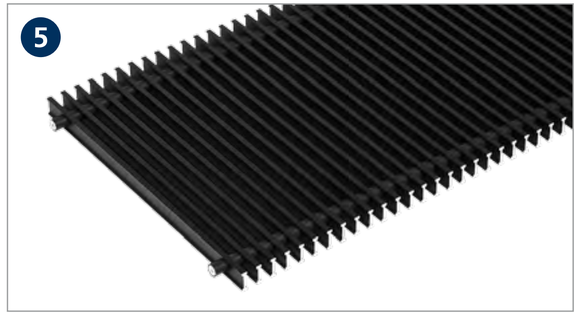


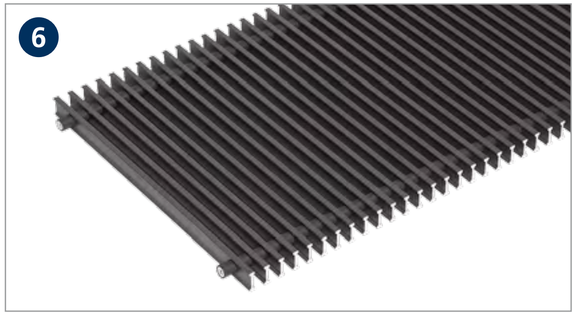
Decorative air outlets for trench systems

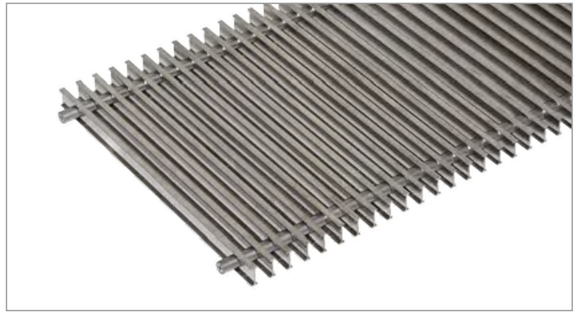


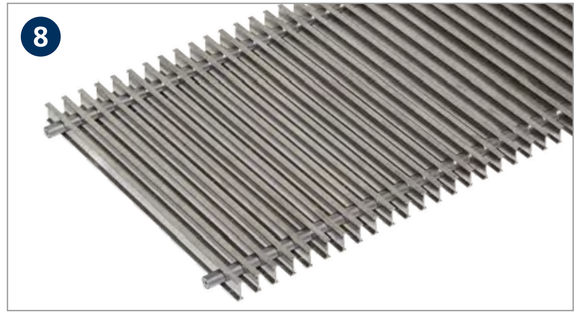












1. Aluminium, natural anodised
2. Aluminium, brass anodised
3. Aluminium, bronze anodised
4. Aluminium, bronze finish
5. Aluminium, black anodised
6. Aluminium, basalt grey painted DB 703
7. Stainless steel
8. Stainless steel, polished
9. Brass, natural

Aluminium roll-up grille, natural´anodised:

- double T-profile roll-up grille
- bar dimension 18 x 5 mm (stainless steel 18 x 6 mm)
- bar spacing 9 mm (stainless steel 10.5 mm)
- connections made of corrosion-proof steel springs with spacers in a matching colour
- 65 % free area

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