Trench Technology

For a comfortable room climate

Genau
mein
Klima.

KAMPMANN

Contents

Trench heating systems are the first choice for sophisticated rooms with floor-to-ceiling windows. Conventional radiators often obstruct the view and attract unwanted attention. They often do not harmonize with the architectural vision.

Trench technology units from Kampmann are installed in the floor along the windows. They blend in with the overall appearance and provide effective temperature control. Complete room heating and cooling, residual heat coverage, cold air screening, and façade ventilation: Kampmann trench heating and cooling systems provide an individual feel-good climate.

KAMPMANN

We are the technology leader, thanks to our myriad options.

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

Genau mein Klima

KAMPMANN

1000+

Kampmann Group employees

11421

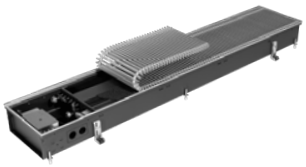
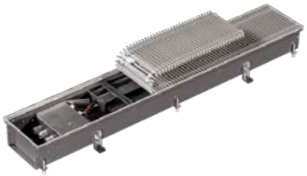
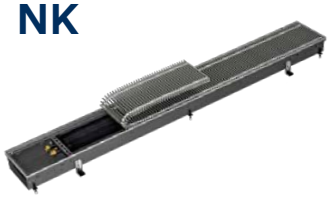
trench heating product variants in the standard range alone

International sites

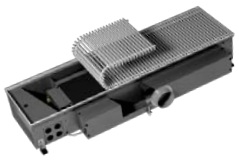
Headquarters

Kampmann GmbH & Co. KG
Lingen (Ems)
Germany

- Canada / USA
- France
- Italy
- Netherlands
- Austria
- Poland
- Switzerland
- Great Britain
- Hungary

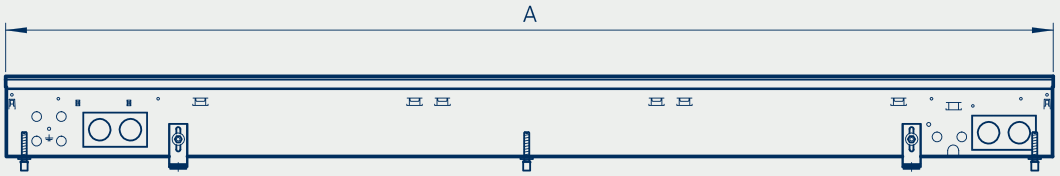
		Heating	Supply air	Cooling	Water-based coil	EC tangential fan	Electric heating coil	Heat output in [W]	Cooling output in [W]
HK 	I would like to heat and cool.	✓	✓	✓	✓	✓	×	436 – 16884 [1]	62 – 3348 [2]
HK E 	I would like to heat electrically and cool with water.	✓	✓	✓	✓	✓	✓	200 – 9716 / 1500 [3]	91 – 1854 [2]
QK 	I would like to heat using low supply temperatures.	✓	✓	×	✓	✓	×	71 – 6025 [1]	×
QK nano 	I have very little space.	✓	×	×	✓	✓	×	52 – 3524 [1]	×
QE 	I would like to heat electrically.	✓	×	×	×	✓	✓	160 – 2400 [4]	×
NK 	I would like to heat without a fan.	✓	✓	×	✓	×	×	78 – 5590 [1]	×

[1] At LPHW 75/65 °C, room temperature = 20 °C | [2] At CHW 16/18 °C, room temperature = 27 °C, 48% rel. humidity |
[3] At LPHW 75/65 ° C, room temperature = 20 °C, with fan-assisted convection / when operating with an electric heating coil | [4] Electrical heat output with BMS control voltage 2 – 10 V

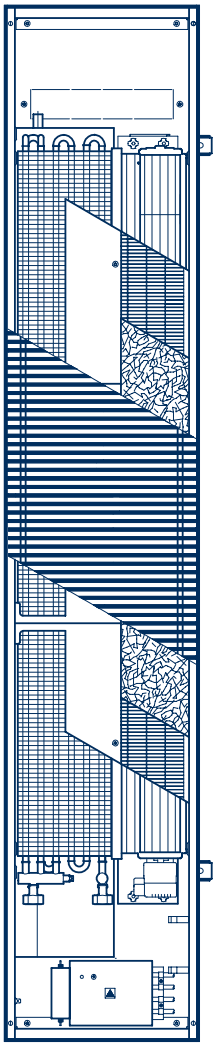
		Heating	Supply air	Cooling	Water-based coil	EC tangential fan	Electric heating coil	Heat output in [W]	Cooling output in [W]
ID 	I would like to supply primary air by induction.	✓	✓	✓	✓	×	×	Individual	Individual
QL 	I would like to heat with displacement ventilation.	✓	✓	×	✓	×	×	131 – 1171 [1)]	×
UZAS 	I would like decentralized ventilation, with heat recovery and secondary air operation.	✓	✓	✓	✓	✓	×	1550 [6)]	490 [7)]
UZA 	I would like decentralized ventilation with heat recovery.	✓	✓	✓	✓	✓	×	1270 [1)]	270 [5)]
UZS 	I would like decentralized ventilation, with the addition of secondary air.	✓	✓	✓	✓	✓	×	904 [1)]	530 [5)]

[5)] At CHW 16/18 °C, room temperature = 26 °C, 48% rel. humidity | [6)] At LPHW 75/65 °C, room temperature = 20 °C, outside air temperature = -12 °C
[7)] At CHW 16/18 °C, room temperature = 26 °C, outside air temperature = 32 °C

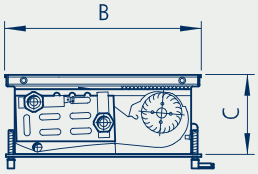
Front view



Top view
(without cover)



Cross-sectional view



HK

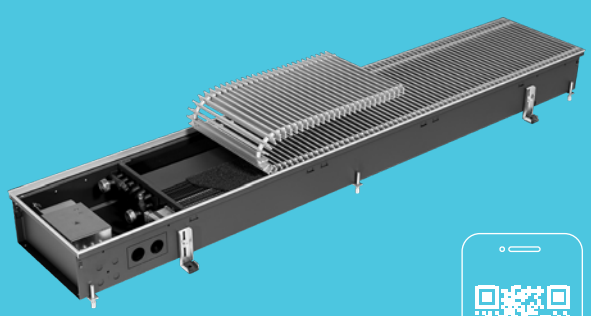
Trench heater for heating or cooling.
EC tangential fan-assisted convection, whisper-quiet and energy-efficient.

Heating:
LPHW

Cooling:
CHW

Ventilation: (optional) through supply air modules or supply air ducts

Whisper-quiet:
EC technology



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Products > Trench technology

Technical data

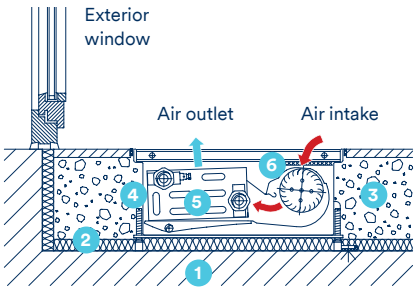
Width	Height	Length	Heat output [1]		Cooling output, dry [2]		Sound pressure level [3], [4]	Sound power level [4]
B	C	A	2-pipe	4-pipe	2-pipe	4-pipe		
[mm]	[mm]	[mm]	[W]	[W]	[W]	[W]	[dB(A)]	[dB(A)]
320	130	915	706 – 2101	544 – 1220	87 – 356	85 – 337	< 20 – 39	< 28 – 47
		1200	1102 – 3627	954 – 2185	160 – 630	161 – 620	< 20 – 41	< 28 – 49
		1700	2149 – 6043	1766 – 3785	279 – 1043	280 – 1027	< 20 – 41	< 28 – 49
		2000	2321 – 7573	2110 – 4884	312 – 1326	314 – 1307	< 20 – 44	< 28 – 52
		2500	3336 – 10103	2822 – 6415	432 – 1749	433 – 1722	< 20 – 44	< 28 – 52
		3000	4266 – 12553	3611 – 8004	551 – 2159	552 – 2124	< 20 – 44	< 28 – 52
245	160	915	637 – 1452	462 – 1053	66 – 251	62 – 237	< 20 – 39	< 28 – 47
		1200	1061 – 2420	770 – 1755	110 – 419	103 – 394	< 20 – 41	< 28 – 49
		1700	1910 – 4355	1385 – 3158	198 – 754	186 – 710	< 20 – 41	< 28 – 49
		2000	2123 – 4839	1539 – 3509	220 – 837	207 – 789	< 20 – 44	< 28 – 52
		2500	2972 – 6775	2155 – 4913	308 – 1172	290 – 1104	< 20 – 44	< 28 – 52
		3000	3821 – 8710	2771 – 6316	395 – 1507	372 – 1420	< 20 – 44	< 28 – 52
290	160	950	673 – 2811	564 – 1586	75 – 534	72 – 495	< 20 – 39	< 28 – 47
		1200	1137 – 4752	954 – 2681	127 – 903	121 – 837	< 20 – 42	< 28 – 50
		1700	1810 – 7562	1518 – 4268	202 – 1437	193 – 1332	< 20 – 44	< 28 – 52
		2000	2370 – 9905	1988 – 5590	265 – 1882	253 – 1744	< 20 – 45	< 28 – 53
		2500	3027 – 12648	2539 – 7138	338 – 2404	323 – 2228	< 20 – 46	< 28 – 54
		3000	4036 – 16865	3385 – 9517	451 – 3205	431 – 2970	< 20 – 47	< 28 – 55
360	210	950	887 – 4113	643 – 2982	92 – 816	87 – 768	< 20 – 51	< 28 – 59
		1200	1471 – 6819	1066 – 4944	152 – 1352	144 – 1273	< 20 – 52	< 28 – 60
		1350	1821 – 8442	1320 – 6121	189 – 1674	178 – 1576	< 20 – 52	< 28 – 60
		1850	2755 – 12771	1998 – 9261	286 – 2533	269 – 2385	< 20 – 53	< 28 – 61
		2250	3642 – 16884	2641 – 12243	378 – 3348	356 – 3153	< 20 – 55	< 28 – 63

[1] Heat output at LPHW 75/65°C, room temperature 20 °C, with fan-assisted convection
[2] Cooling output at CHW 16/18, room temperature 27 °C, 48% rel. humidity, with fan assistance
[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 (in accordance with VDI 2081).
[4] Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

Installation options

HK 320

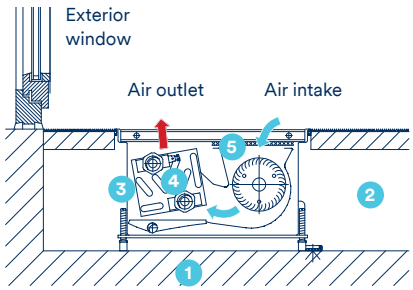
Installed in screed



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

HK 290

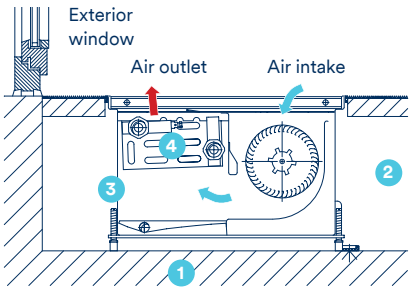
Installed in a raised floor



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

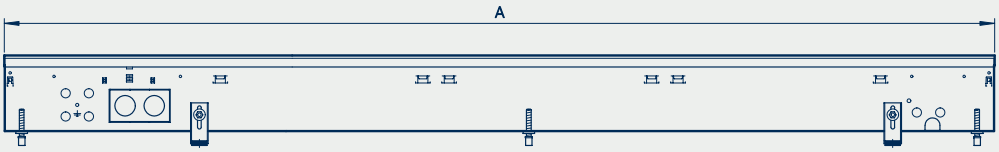
HK 360

Installed in a raised floor

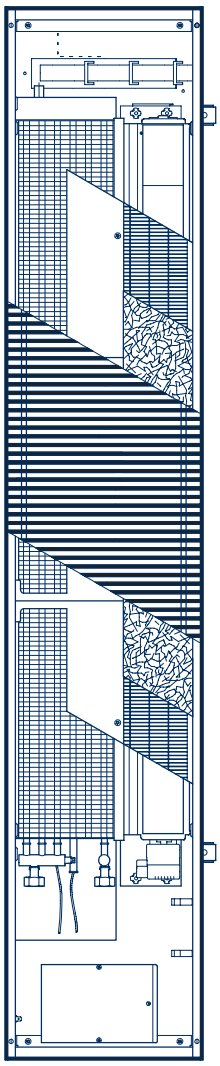


1 Concrete slab
2 Raised floor
3 Floor trench
4 High-output coil

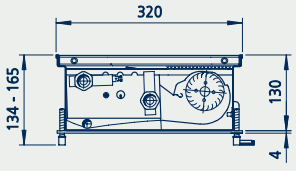
Front view



Top view
(without cover)



Cross-sectional view



HK E

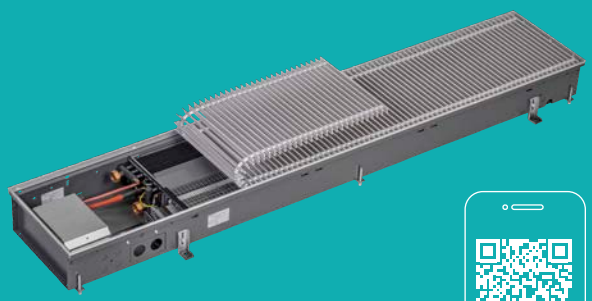
Trench heater with electric heating mode and coil-based cooling/ heating. 2-pipe solution with 4-pipe comfort.

Heating:
LPHW or electric heating coil

Cooling:
CHW

Ventilation: (optional) through supply air modules or supply air ducts

Whisper-quiet:
EC technology



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Technical data

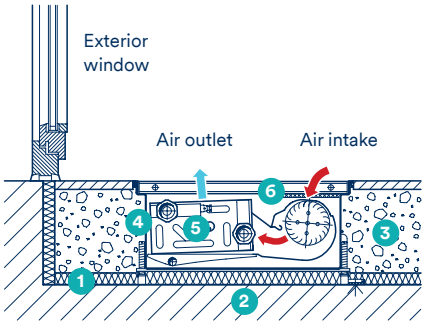
Width	Height	Length	Heat output [1]	Electric heat output [2]	Cooling output, dry [3]	Sound pressure level [4], [5]	Sound power level [5]
B	C	A	2-pipe LPHW	2-pipe Electric heating coil	2-pipe CHW		
[mm]	[mm]	[mm]	[W]		[W]	[dB(A)]	[dB(A)]
320	130	915	942 – 1960	200 – 500	91 – 274	< 20 – 39	< 28 – 47
		1200	1659 – 3248	400 – 1000	153 – 517	< 20 – 41	< 28 – 49
		1700	1980 – 4933	400 – 1000	214 – 927	< 20 – 41	< 28 – 49
		2000	2200 – 5481	400 – 1000	238 – 1030	< 20 – 44	< 28 – 52
		2500	3080 – 7673	600 – 1500	333 – 1442	< 20 – 44	< 28 – 52
		3000	3484 – 9716	600 – 1500	411 – 1854	< 20 – 44	< 28 – 52

[1] Heat output at LPHW 75/65°C, room temperature 20 °C, with fan-assisted convection
[2] Heat output when operating with an electric heating coil
[3] Cooling output at CHW 16/18, room temperature 27 °C, 48% rel. humidity, with fan assistance
[4] 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).
[5] Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

Installation options

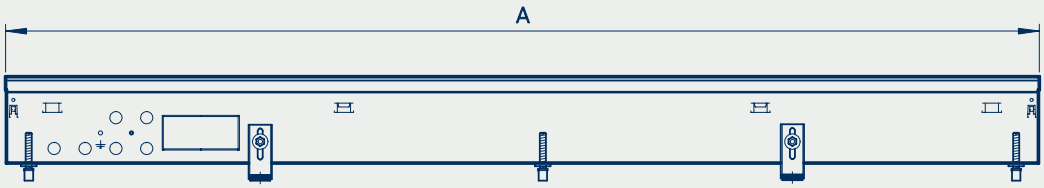
HKE 320 E, trench height 130 mm

Installed in screed

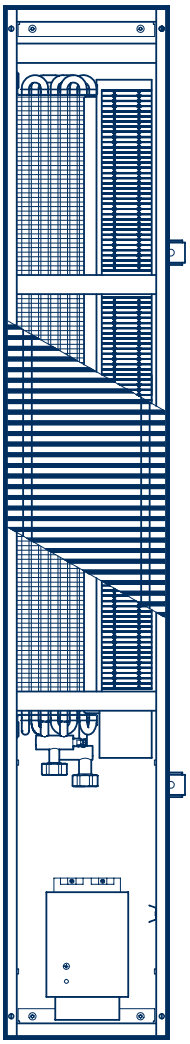


1 Heat and sound insulation
2 Concrete slab
3 Screed
4 Floor trench
5 High-output coil
6 Filter (optional)

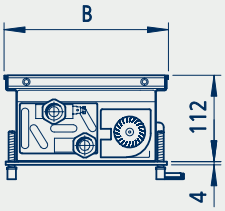
Front view



Top view
(without cover)



Cross-sectional view



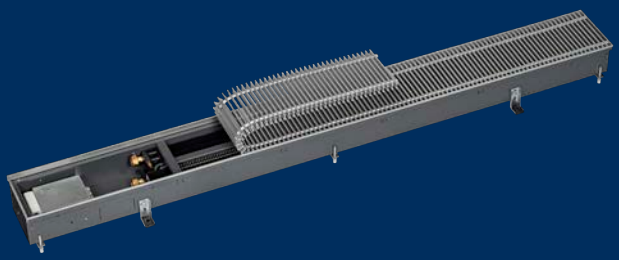
QK

Trench heater with EC tangential fan-assisted convection.
For heating with low supply temperatures.

Heating:
LPHW

Ventilation: (optional) through supply air modules

Whisper-quiet:
EC technology



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Technical data

Type	Heat output [1]				Sound pressure level [2), 3)]	Sound power level [3)]
	at LPHW 75/65 °C	at LPHW 55/45 °C	at LPHW 45/35 °C	at LPHW 35/30 °C		
	[W]	[W]	[W]	[W]	[dB(A)]	[dB(A)]
Katherm QK 190	437 – 5781	257 – 3413	169 – 2246	104 – 1383	<20 – 41	<28 – 49
Katherm QK 215	522 – 6025	315 – 3481	315 – 3481	133 – 1359	<20 – 41	<28 – 49

[1] At room temperature 20 °C, with grille bar spacing 12 mm, free cross-section: approx. 70%, with fan-assisted convection
[2] 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).
[3] Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual audible range.

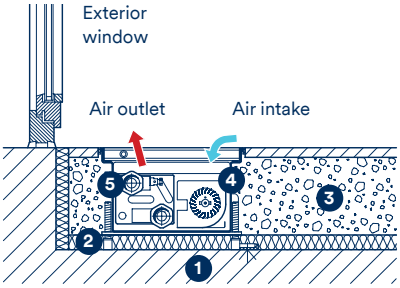
Sizes

Katherm	Trench width	Trench height	Trench length
	B	C	A
	[mm]	[mm]	[mm]
Katherm QK 190	190	112	1000 – 3200
Katherm QK 215	215		

Installation options

QK 190

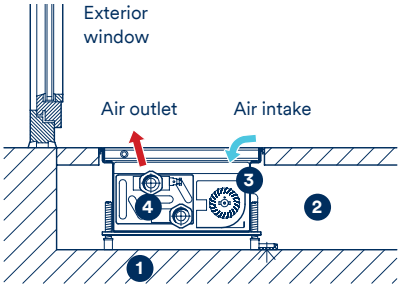
Installed in screed, H = 112 mm, W = 190 mm



1 Concrete slab
2 Heat and sound insulation
3 Screed
4 Floor trench
5 High-output coil

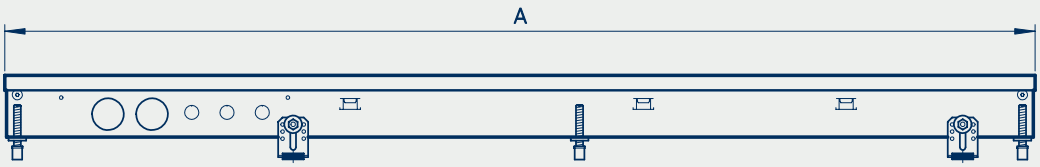
QK 215

Installed in a raised floor, H = 112 mm, W = 215 mm

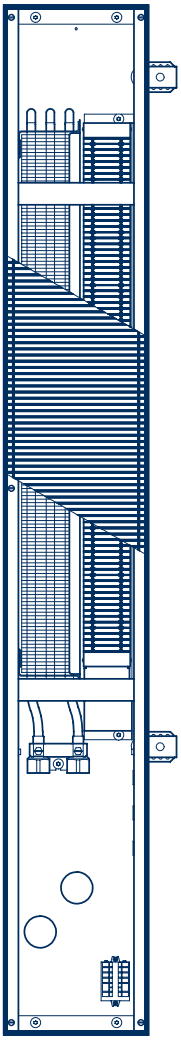


1 Concrete slab
2 Raised floor
3 Floor trench
4 High-output coil

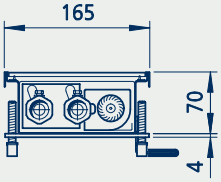
Front view



Top view
(without cover)



Cross-sectional view

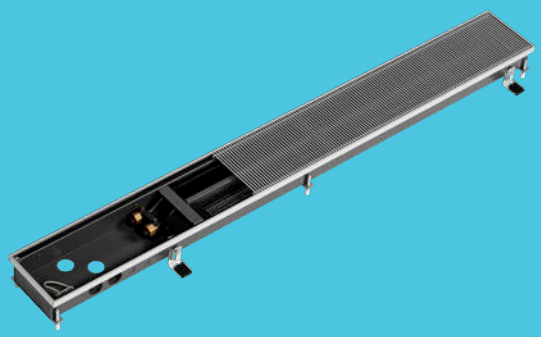


QK nano

Trench heater with EC tangential fan-assisted convection. Nano format – top performance.

Heating:
LPHW

Whisper-quiet:
EC technology



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Technical data

Trench length		Heat output [1]					Sound pressure level [2, 3]	Sound power level [3]
24 V electro-mechanical version	230 V electro-mechanical model or KaControl	with LPHW 75 / 65 °C	with LPHW 55 / 45 °C	with LPHW 90 / 70 °C	with LPHW 82 / 71 °C	with LPHW 40 / 30 °C		
[mm]	[mm]	[W]	[W]	[W]	[W]	[W]	[dB(A)]	[dB(A)]
900	1100	248 – 772	120 – 461	321 – 928	295 – 874	45 – 229	<20 – 34	<28 – 42
1400	1600	496 – 1545	241 – 922	642 – 1857	590 – 1748	90 – 458	<20 – 37	<28 – 45
1800	2000	744 – 2317	361 – 1384	963 – 2785	885 – 2621	135 – 687	<20 – 39	<28 – 47
2100	2300	935 – 2912	454 – 1739	1211 – 3500	1112 – 3294	170 – 864	<20 – 40	<28 – 48
2600	2700	1132 – 3524	549 – 2105	1465 – 4236	1346 – 3987	206 – 1046	<20 – 41	<28 – 49

[1] At a room temperature of 20 °C, with fan-assisted convection
[2] 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).
[3] Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual audible range.

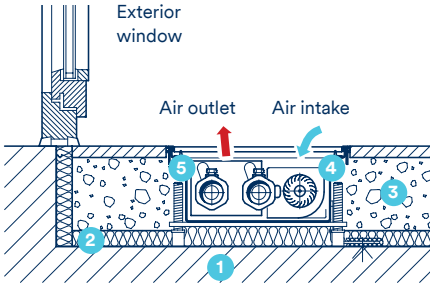
Sizes

Trench length	Finned coil length
A	
[mm]	[mm]
900	435
1400	870
1800	1305
2100	1640
2600	1985

Installation options

Installed in screed

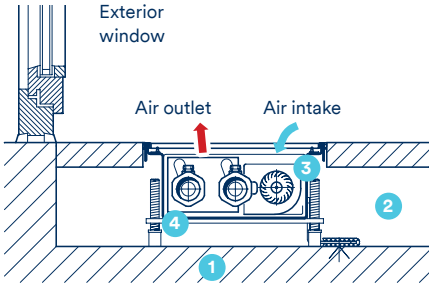
H = 70 mm, W = 165 mm



1 Concrete slab
2 Heat and sound insulation
3 Screed
4 EC tangential fan
5 High-output coil

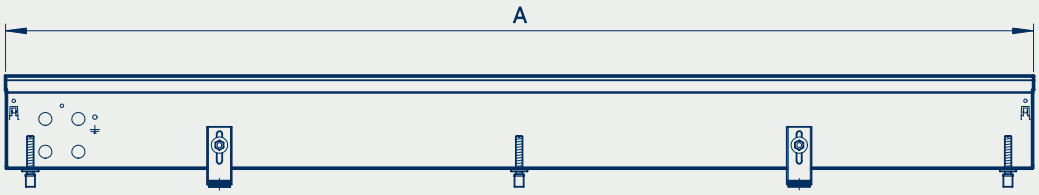
Installed in a raised floor

H = 70 mm, W = 165 mm

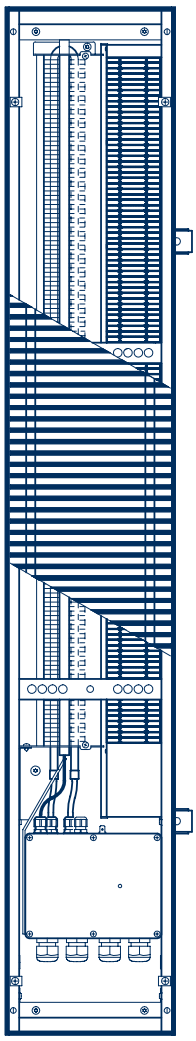


1 Concrete slab
2 Raised floor
3 EC tangential fan
4 High-output coil

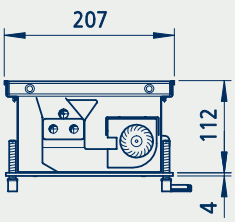
Front view



Top view
(without cover)



Cross-sectional view

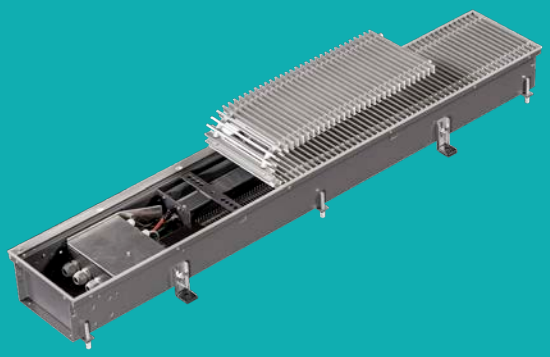


QE

Tangential fan-assisted convection with electric heating coil.

Heating:
electric heating coil

Whisper-quiet:
EC technology



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Products > Trench technology

Technical data

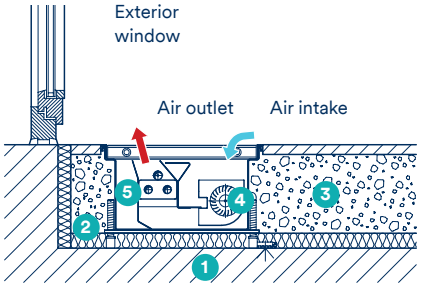
Width	Height	Heating element height/Heating element depth	Length	Finned coil length	Heat output Max.	Max. sound pressure level [1), 2)]	Max. sound power level [2)]
B	C		A				
[mm]	[mm]	[mm]	[mm]	[mm]	[W]	[dB(A)]	[dB(A)]
207	112	25 x 50	825	400	800	28	36
			1250	835	1600	31	39
			1700	1270	2400	33	41

[1)] 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).
[2)] Sound pressure level <20 dB (A) and sound power level <28 dB (A) outside the usual audible range.

Installation options

Installed in screed

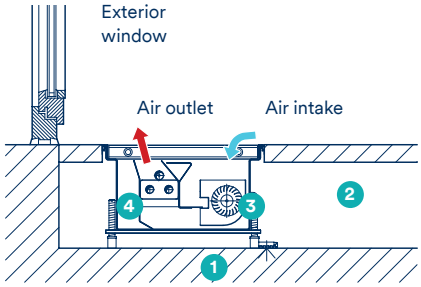
H = 112 mm, W = 207 mm



1 Concrete slab
2 Heat and sound insulation
3 Screed
4 EC tangential fan
5 Electric heating coil

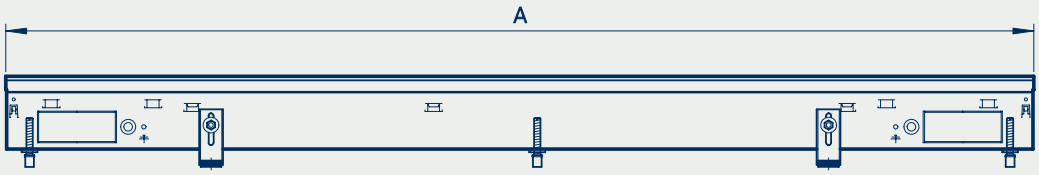
Installed in a raised floor

H = 112 mm, W = 207 mm

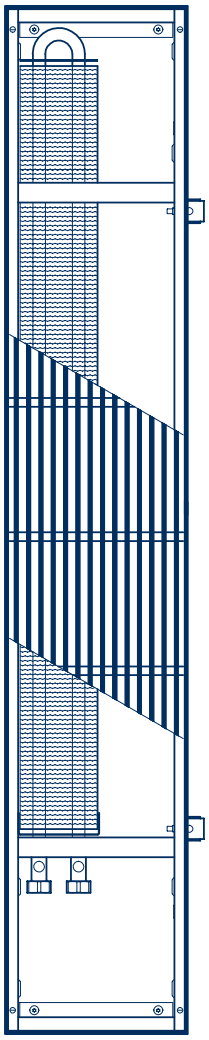


1 Concrete slab
2 Raised floor
3 EC tangential fan
4 Electric heating coil

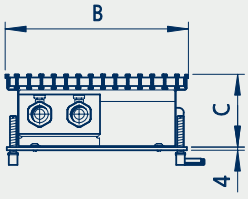
Front view



Top view
(without cover)



Cross-sectional view

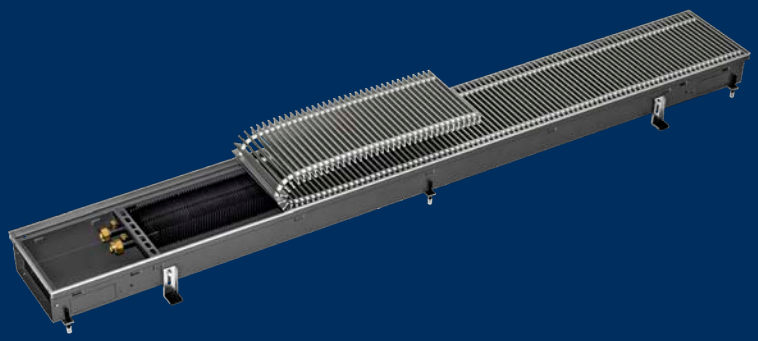


NK

Trench heater with natural convection, and no rotating parts.

Heating:
LPHW

Ventilation: (optional) through supply air modules



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Products > Trench technology

Technical data

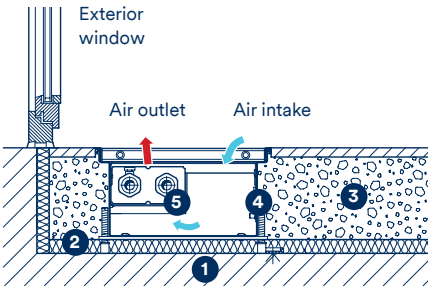
Type	Length	Width	Height	Heat output [1]			
	A	B	C	with LPHW 75 / 65 °C	with LPHW 55 / 45 °C	with LPHW 50 / 40 °C	with LPHW 45 / 35 °C
	[mm]	[mm]	[mm]	[W]	[W]	[W]	[W]
NK 137	800 – 5000	137	92	78 – 981	34 – 431	26 – 322	18 – 224
			120	84 – 1050	35 – 438	26 – 321	18 – 219
NK 182	800 – 5000	182	92	132 – 1295	66 – 646	51 – 504	38 – 372
			120	162 – 1594	80 – 784	62 – 608	45 – 446
			150	206 – 1857	96 – 867	73 – 661	53 – 474
			200	232 – 2084	106 – 954	80 – 722	57 – 513
NK 232	800 – 5000	232	92	157 – 1530	76 – 741	59 – 572	43 – 417
			120	193 – 1881	93 – 911	72 – 703	53 – 512
			150	309 – 2778	146 – 1381	112 – 1010	81 – 729
			200	334 – 3010	160 – 1442	123 – 1109	89 – 804
NK 300	800 – 5000	300	92	209 – 2036	104 – 1011	81 – 788	60 – 580
			120	268 – 2609	133 – 1296	104 – 1010	76 – 744
			150	394 – 3545	189 – 1699	145 – 1306	105 – 947
			200	445 – 4003	211 – 1899	162 – 1455	117 – 1050
NK 380	800 – 5000	380	92	279 – 2717	142 – 1384	112 – 1088	83 – 810
			120	344 – 3353	173 – 1691	136 – 1325	101 – 982
			150	485 – 4362	235 – 2112	181 – 1630	132 – 1188
			200	621 – 5590	299 – 2693	231 – 2075	168 – 1508

[1] Heat outputs at room temperature 20 °C

Installation options

NK 232

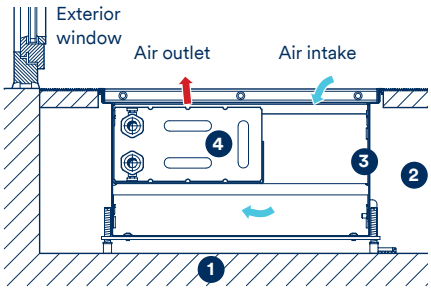
Installed in screed



1 Concrete slab
2 Heat and sound insulation
3 Screed
4 Floor trench
5 High-output coil

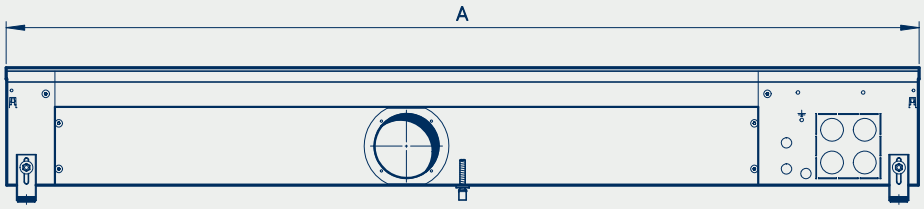
NK 380

Installed in a raised floor

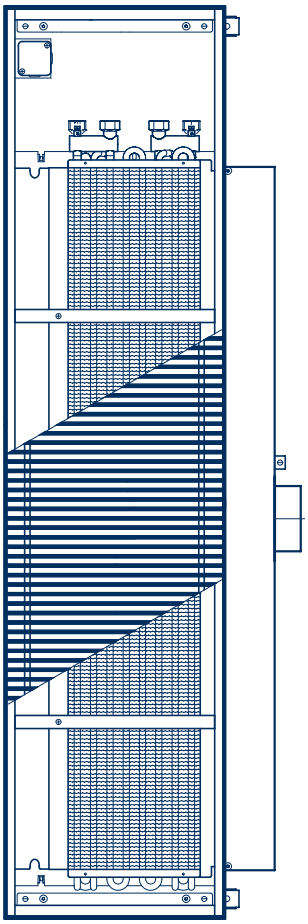


1 Concrete slab
2 Raised floor
3 Floor trench
4 High-output coil

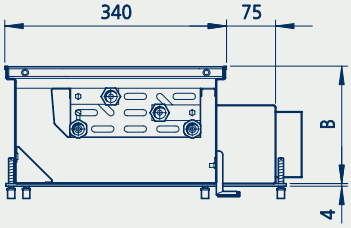
Front view



Top view
(without cover)



Cross-sectional view



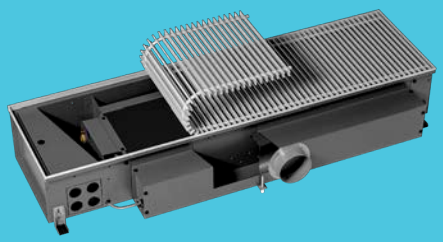
ID

Trench heater for heating and cooling by induction without rotating parts with conditioned supply air.

Heating:
LPHW

Cooling:
CHW

Ventilation:
continuous supply air is fed into the room



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Products > Trench technology

Technical data

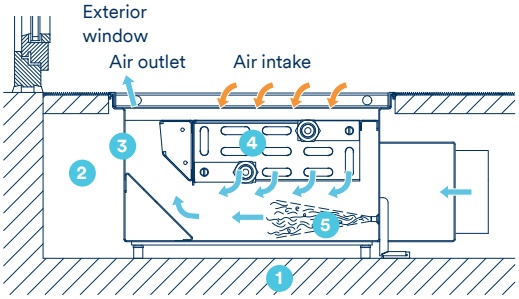
Width	Height	Length	Heat output [1]		Cooling output [2]		Sound pressure level [3]	Sound power level [4]
B	C	A	2-pipe	4-pipe	2-pipe	4-pipe		
[mm]	[mm]	[mm]	[W]	[W]	[W]	[W]	[dB(A)]	[dB(A)]
340	180	800	990 – 1975	816 – 1323	125 – 332	125 – 332	<20 – 33	<28 – 41
		1000	1329 – 2711	1114 – 1834	165 – 453	165 – 453	<20 – 34	<28 – 42
		1200	1726 – 3534	1445 – 2385	215 – 591	215 – 591	<20 – 36	<28 – 44
		1400	2242 – 4357	1845 – 2937	283 – 730	283 – 730	<20 – 37	<28 – 45
		1600	2640 – 5180	2177 – 3488	333 – 868	333 – 868	<20 – 37	<28 – 45
340	205	800	1069 – 2181	816 – 1323	142 – 383	142 – 383	<20 – 33	<28 – 41
		1000	1433 – 2991	1114 – 1834	188 – 522	188 – 522	<20 – 34	<28 – 42
		1200	1862 – 3900	1445 – 2385	244 – 681	244 – 681	<20 – 36	<28 – 44
		1400	2422 – 4808	1845 – 2937	323 – 841	323 – 841	<20 – 37	<28 – 45
		1600	2851 – 5717	2177 – 3488	379 – 1001	379 – 1001	<20 – 37	<28 – 45

[1] Heat outputs at LPHW 75/65 °C, room temperature 20°C
[2] Cooling output at CHW 16/18 °C, room temperature 26 °C, 48% rel. 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 (in accordance with VDI 2081).
[4] Sound pressure level <20 dB (A) and sound power level <28 dB (A) outside the usual measuring and audible range.

Installation options

ID 340 in cooling mode

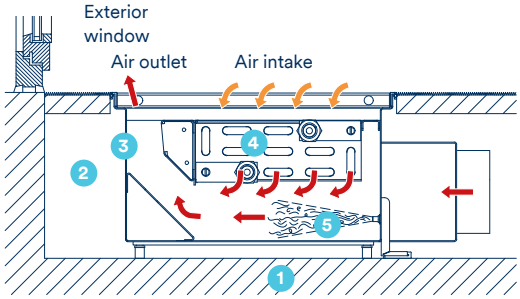
Installed in a raised floor



1 Concrete slab
2 Raised floor
3 Floor trench
4 High-output coil
5 Induction nozzle

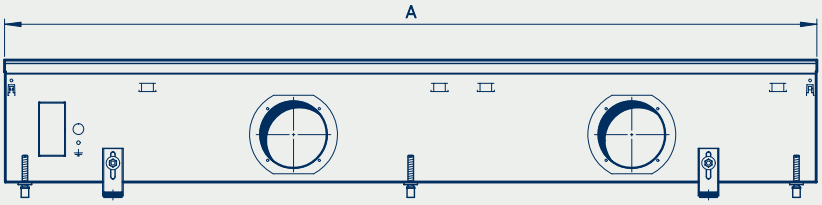
ID 340 in heating mode

Installed in a raised floor

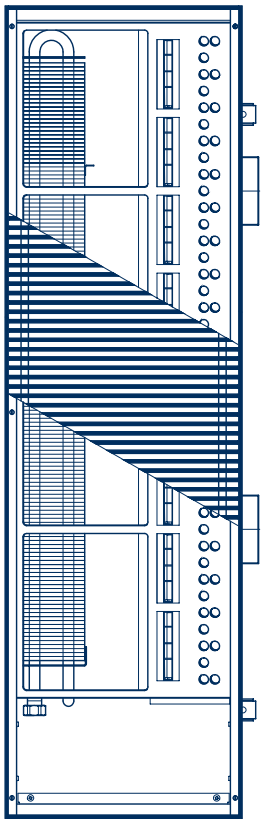


1 Concrete slab
2 Raised floor
3 Floor trench
4 High-output coil
5 Induction nozzle

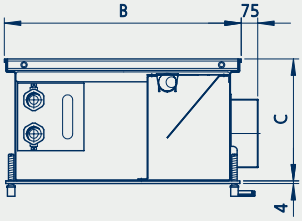
Front view



Top view
(without cover)



Cross-sectional view

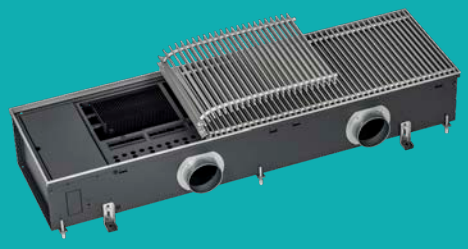


QL

The displacement ventilation system for draught-free and energy-saving displacement ventilation.

Heating:
LPHW

Ventilation:
continuous supply air is fed into the room



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kampmanngroup.com >
Products > Trench technology

Technical data

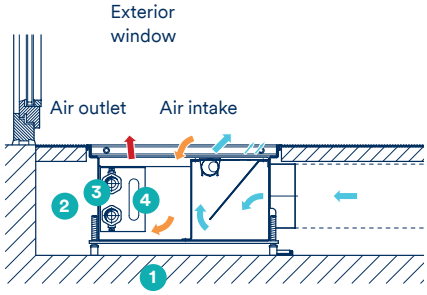
Type	Primary air volume flow	Length	Width	Height	Heat output [2]			
		A	B	C	at LPHW 75/65 °C	at LPHW 55/45 °C	at LPHW 50/40 °C	at LPHW 45/35 °C
		[mm]	[mm]	[mm]	[W]	[W]	[W]	[W]
QL 300	none	700, 1200, 1700, 2200, 2700	300	150	133 – 796	63 – 379	49 – 291	35 – 211
				180	166 – 995	80 – 482	62 – 372	45 – 271
QL 350	none	700, 1200, 1700, 2200, 2700	350	150	156 – 937	74 – 446	57 – 343	41 – 248
				180	195 – 1171	94 – 567	73 – 438	53 – 319
QL 300	20 – 80m³/h [1]	700, 1200, 1700, 2200, 2700	300	150	116 – 697	59 – 351	46 – 275	34 – 204
				180	156 – 935	76 – 458	59 – 355	43 – 260
QL 350	20 – 80m³/h [1]	700, 1200, 1700, 2200, 2700	350	150	137 – 820	69 – 413	54 – 324	40 – 240
				180	183 – 1100	90 – 539	70 – 418	51 – 306

[1] At 2 – 4 K undertemperature depending on the trench length
[2] Room temperature 20 °C

Installation options

QL 300

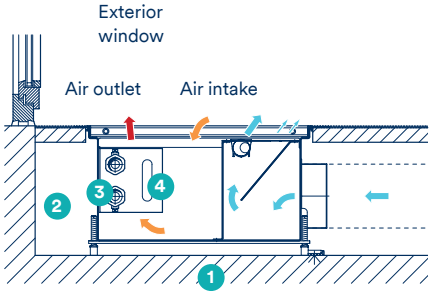
Installed in a raised floor



1 Concrete slab
2 Raised floor
3 Floor trench
4 High-output coil

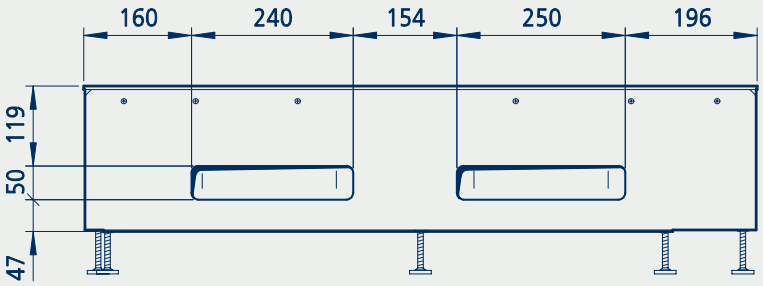
QL 350

Installed in a raised floor

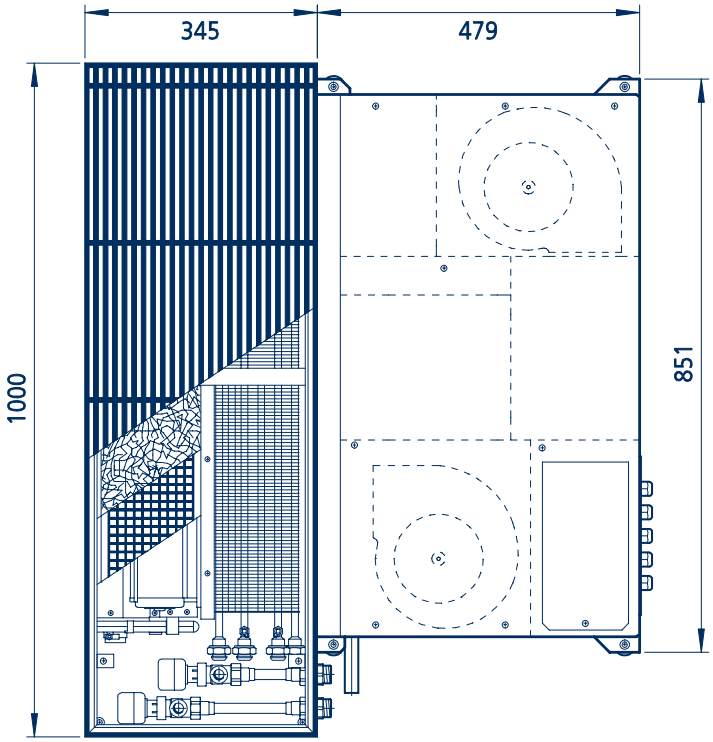


1 Concrete slab
2 Raised floor
3 Floor trench
4 High-output coil

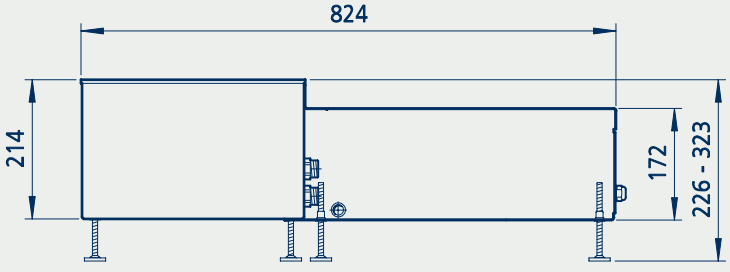
Front view



Top view
(without cover)



Cross-sectional view



UZAS

The façade ventilation unit with heat recovery and secondary air function for heating, cooling and ventilation.

Heating

Cooling

Ventilation

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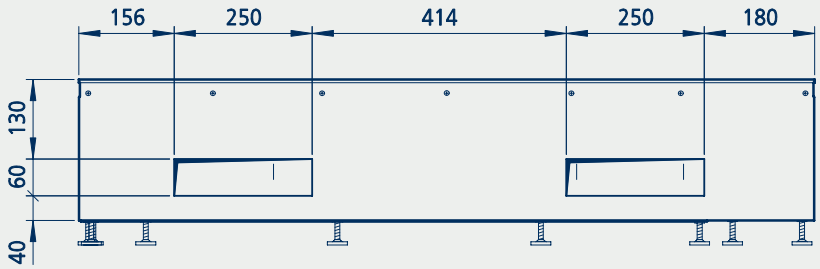
> Decentralized ventilation units

Technical data

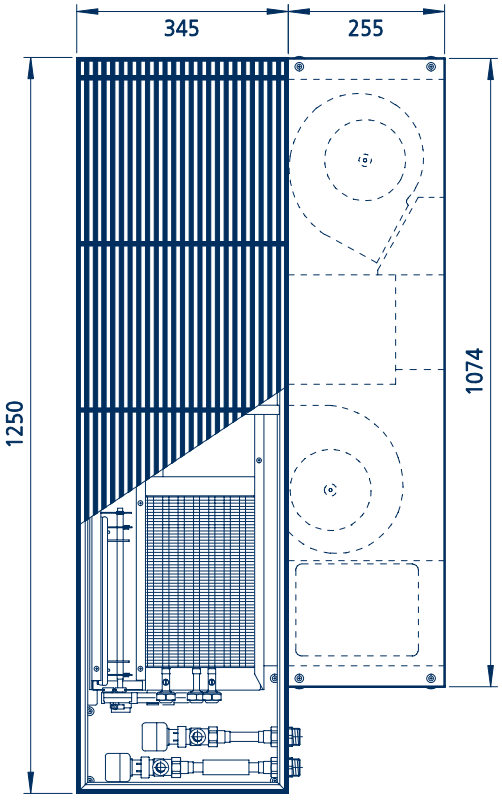
Outside air percentage	Secondary air percentage	Heat output (Usable output) [1]		Cooling output (Usable output) [2]		Sound pressure level	Sound power level
		2-pipe	4-pipe	2-pipe	4-pipe		
[m³/h]	[m³/h]	[W]	[W]	[W]	[W]	[dB(A)]	[dB(A)]
30	32	1135 / 815	965 / 645	201 / 142	192 / 133	20	28
	104	1997 / 1677	1417 / 1097	358 / 299	340 / 281	26	34
	187	2898 / 2578	1851 / 1531	508 / 449	481 / 423	40	48
60	32	1818 / 1178	1443 / 803	324 / 207	310 / 192	23	31
	104	2646 / 2006	1863 / 1223	468 / 351	446 / 329	27	35
	187	3503 / 2863	2239 / 1599	604 / 487	574 / 457	40	48
90	32	2646 / 1504	1872 / 912	439 / 263	419 / 243	28	36
	104	3257 / 2297	2252 / 1292	570 / 395	544 / 368	30	38
	187	4068 / 3108	2564 / 1604	691 / 515	658 / 482	40	48
120	31	3068 / 1788	2264 / 1604	544 / 310	520 / 286	34	42
	99	3789 / 2509	2586 / 1306	657 / 424	627 / 393	35	43
	178	4525 / 3245	2829 / 1549	761 / 527	725 / 491	41	49

[1] Heat output at LPHW 75/65°C, secondary air temperature 20 °C, rel. humidity of secondary air 50%, outside air temperature -12 °C, rel. humidity of outside air 50%
[2] Cooling output at CHW 16/18°C, secondary air temperature 26 °C, rel. humidity of secondary air 50%, ouside air temperature 32 °C, rel. humidity of outside air 40%

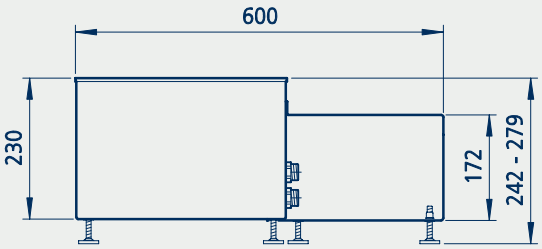
Front view



Top view
(without cover)



Cross-sectional view



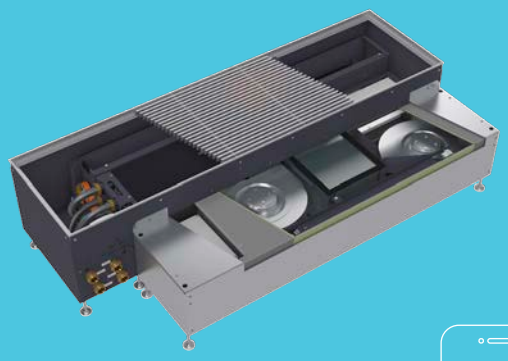
UZA

The façade ventilation unit with heat recovery with supply air and extract air function for heating, cooling and ventilation.

Heating

Cooling

Ventilation



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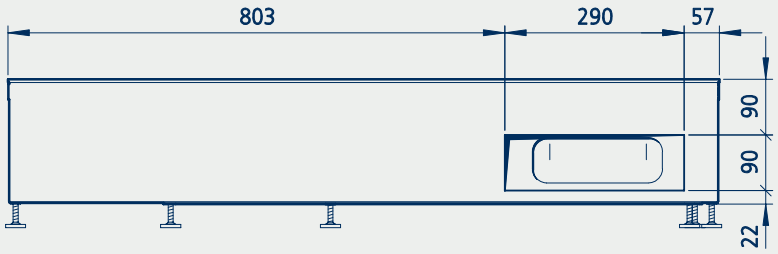
> Decentralized ventilation units

Technical data

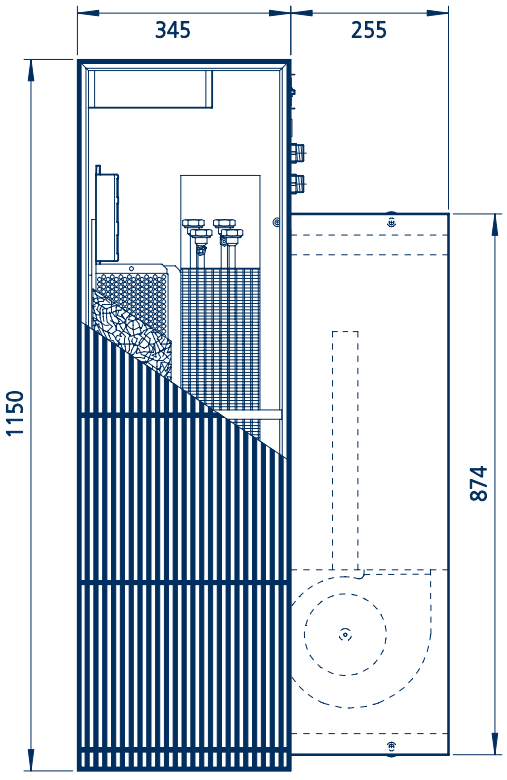
Outside air percentage	Heat output (Usable output) [1]		Cooling output (Usable output) [2]		Sound pressure level	Sound power level
	2-pipe	4-pipe	2-pipe	4-pipe		
[m³/h]	[W]	[W]	[W]	[W]	[dB(A)]	[dB(A)]
30	860 / 538	662 / 341	180 / 100	141 / 81	19	27
60	1723 / 1080	1313 / 669	322 / 186	270 / 149	22	30
90	2568 / 1604	1942 / 977	446 / 265	392 / 211	30	38
120	3397 / 2112	2557 / 1271	584 / 343	513 / 272	37	45

[1] Heat output at LPHW 75/65°C, secondary air temperature 20 °C, rel. humidity of secondary air 50%, outside air temperature -12 °C, rel. humidity of outside air 50%
[2] Cooling output at CHW 16/18°C, secondary air temperature 26 °C, rel. humidity of secondary air 50%, outside air temperature 32 °C, rel. humidity of outside air 40%

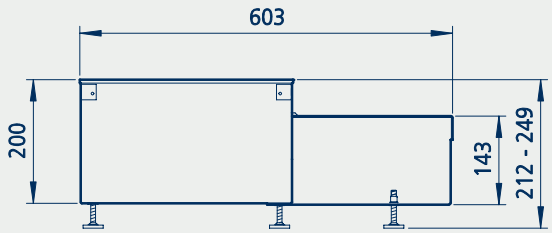
Front view



Top view
(without cover)



Cross-sectional view



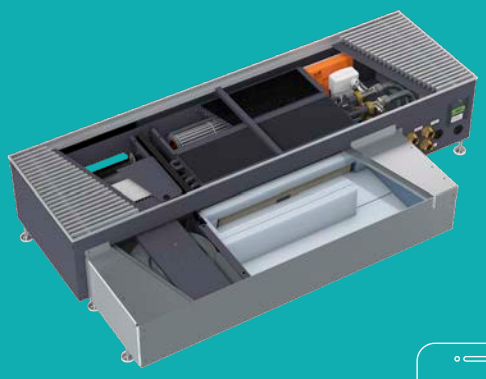
UZS

The façade ventilation unit for heating, cooling and ventilation with secondary air function.

Heating

Cooling

Ventilation



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kampmanngroup.com > Products
> Decentralized ventilation units

Technical data

Outside air percentage	Secondary air percentage	Heat output (Usable output) [1]		Cooling output (Usable output) [2]		Sound pressure level	Sound power level
		2-pipe	4-pipe	2-pipe	4-pipe		
[m³/h]	[m³/h]	[W]	[W]	[W]	[W]	[dB(A)]	[dB(A)]
30	0	653 / 372	643 / 361	249 / 106	219 / 94	21	29
	115	2070 / 1934	1244 / 1003	432 / 363	400 / 331	31	39
	218	3141 / 3135	1674 / 1484	638 / 564	580 / 508	48	56
60	0	1288 / 724	963 / 359	413 / 179	356 / 157	21	29
	105	2541 / 2081	1492 / 900	523 / 392	485 / 355	31	39
	208	3568 / 3224	1864 / 1306	717 / 583	652 / 519	48	56
90	0	1901 / 1051	1273 / 345	557 / 244	474 / 213	28	36
	93	2972 / 2194	1713 / 777	608 / 415	563 / 371	32	40
	199	3986 / 3311	2036 / 1116	795 / 599	722 / 529	48	56
120	0	2491 / 1353	1568 / 314	680 / 302	573 / 262	34	42
	68	3254 / 2153	1870 / 595	667 / 412	617 / 364	35	43
	188	4370 / 3365	2184 / 904	866 / 609	788 / 533	48	56

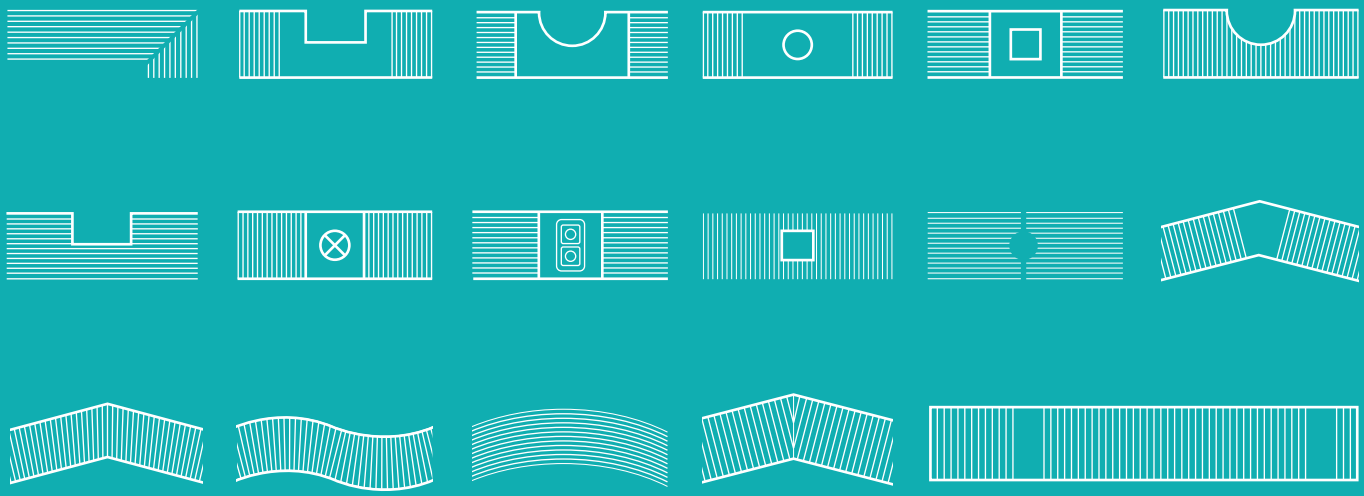
[1] Heat output at LPHW 75/65°C, secondary air temperature 20 °C, rel. humidity of secondary air 50%, outside air temperature -12 °C, rel. humidity of outside air 50%
[2] Cooling output at CHW 16/18°C, secondary air temperature 26 °C, rel. humidity of secondary air 50%, outside air temperature 32 °C, rel. humidity of outside air 40%

Design grilles

For more flexibility in room design

Wide range of designs

Adaptations and special designs are normal in projects.
Katherm trench heaters can therefore be supplied for all geometries, incorporating mitred corners, curved sections, column cut-outs or angles.



Materials and colours

Opt for aluminium grilles in a range of anodised finishes. Or for different finishes of wooden grilles. Or polished stainless steel grilles?

OPTILINE

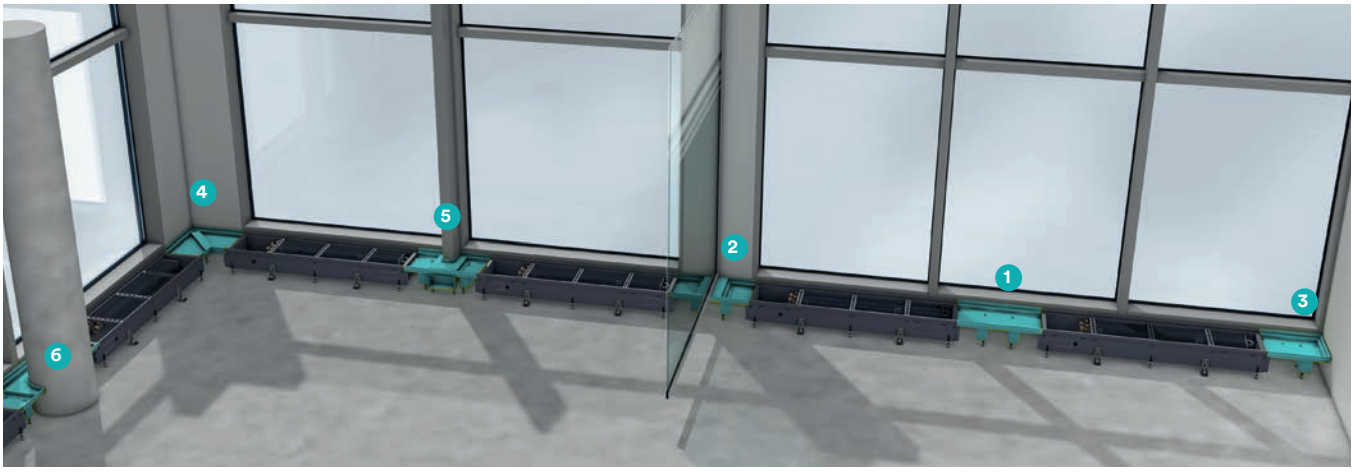
- **Aluminium** painted DB703
- **Aluminium** bronze anodised
- **Aluminium** bronze finish
- **Aluminium** brass anodised
- **Aluminium** black anodised
- **Stainless steel** polished
- **Stainless steel** natural
- **Brass** natural

WOOD

- **Oak** lacquered or oiled
- **Beech** lacquered or oiled
- **Merbau** lacquered or oiled
- **Maple** lacquered or oiled

Flexibly adjustable

Individual connecting modules between the Kampmann trench heating systems create an overall aesthetic look without disruptive interruptions. Kampmann prepares you for every architectural challenge.



Technical details

1 Connecting module

> available in various lengths

> can be shortened on site by up to 100 mm to fit the building structure

2 Partition support

> can be used in combination with the connecting module

> in a range of different versions for all wall thicknesses

> position of partition support can be varied

3 End module

> for on-site length adjustment with slide-in head section

> can be shortened to size

4 Corner module

> connecting module with a 90° angle cannot be shortened

5 Column module, rectangular

> connecting module with recess; support element with frame profile is supplied made-to-measure after site measurement

> ideal for all kinds of façade profiles

6 Column module, round

> connecting module with recess

> support element with round frame profile is delivered made-to-measure following site measurement

A modular brackets combine Katherm trench heaters with the Katherm connecting modules

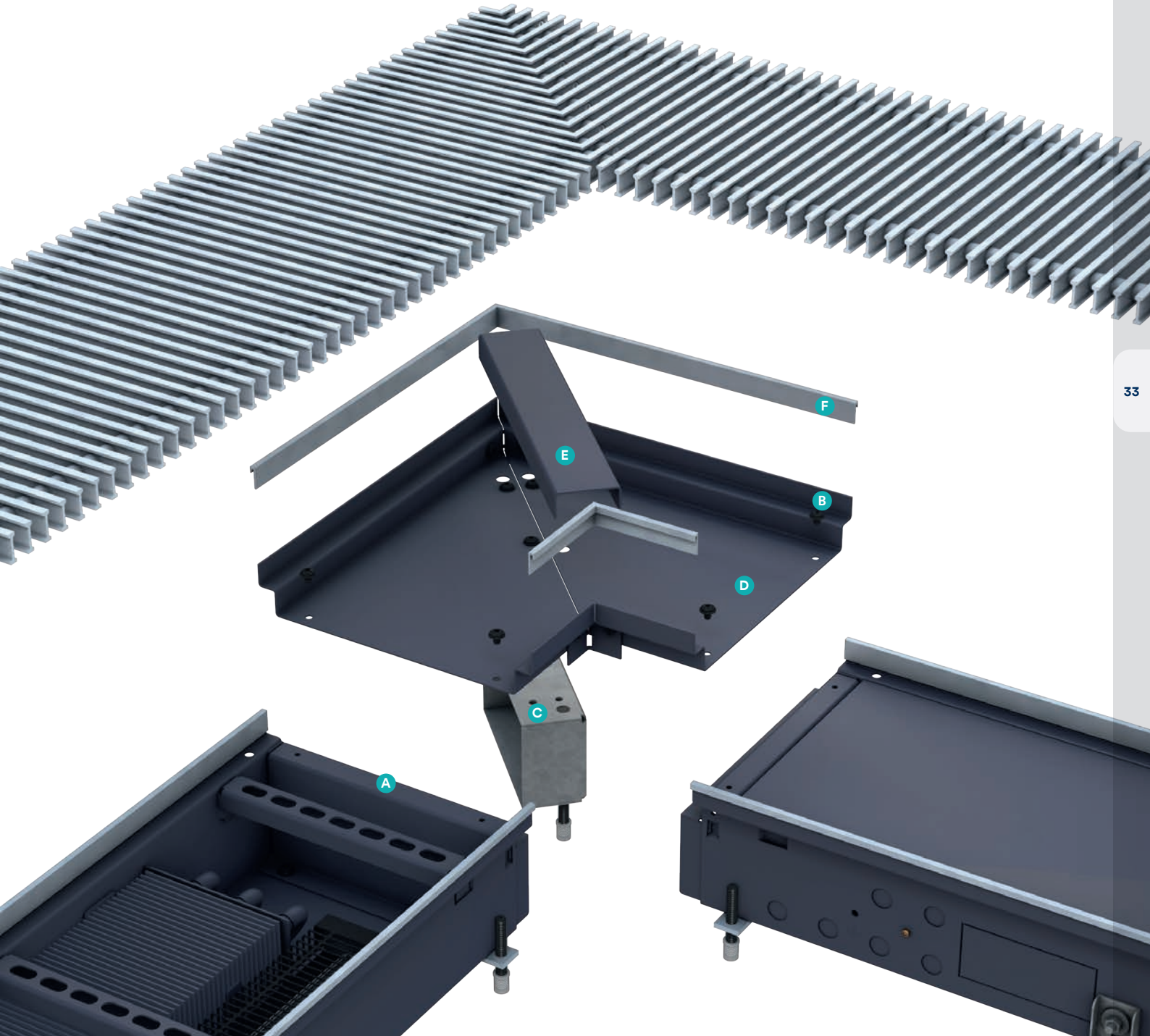
B flat design, for instance for bridging cladding anchors

C robust height adjustment for ease of adaptation

D Katherm modules can be cut to size on site

E grille support

F frame profile delivered separately



Supply air versions

Fresh air fed in through trench heating – for maximum space saving and comfort

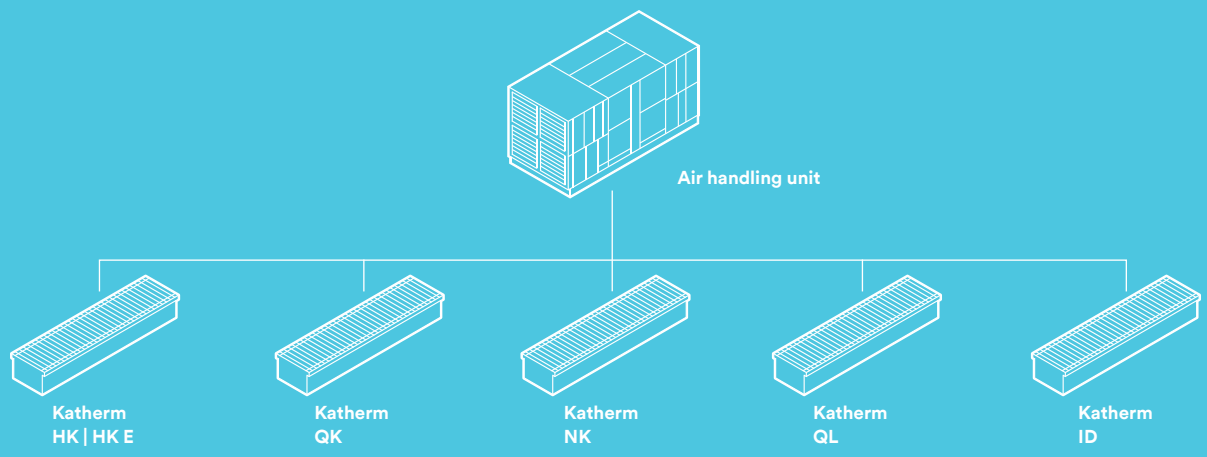
The perfect addition

The Katherm supply air trench is available for all trench heaters (Katherm range). It is a 400 mm long trench, which can be fitted to all designs of Katherm units. Conditioned supply air can also be fed in through the Katherm supply air trench ZL. This is achieved by different spigot sizes and spigot designs for different trench measurements (see technical catalogues for the respective Katherm trench heating units). It is possible to regulate the air volume flow by means of slider elements built into in the supply air trenches.

Benefits

> low leaving air speeds, hence pleasant levels of comfort
> low sound development when correctly designed
> low investment and maintenance costs
> supply air outlets visually identical to Katherm trench heaters
> no wear parts/no electrically rotating parts

Genuine team players



Almost all Katherm trench heating units can be fitted with a supply air function for specific projects. Primary air, pre-conditioned by a central ventilation unit, can be introduced into a room through various supply air spigots, perfectly combining heating, cooling and a supply of fresh air. The space requirement is thus minimised and comfort in the building is maximised. At the same time, efficient heat recovery from the centralised air handling unit saves energy.

Comfort

Comfort also plays a key role in air conditioning. We'll help you consider this aspect when designing a project using Kampmann trench heaters, at the same time as complying with the current guidelines in DIN EN 15251 (in future DIN EN 16798 Parts 1 and 2) and DIN EN ISO 7730. Essentially the following recommended values can be assumed:

In heating mode

Supply air outlet temperature: 20 – 26 °C (but not lower than the room temperature), outlet speed:
< 1.5 m/s distance of the supply air duct to the occupied zone: > 0.5 m

In cooling mode

Supply air outlet temperature:
< 4 K below room temperature, outlet speed:
< 1.2 m/s distance of the supply air duct to 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)

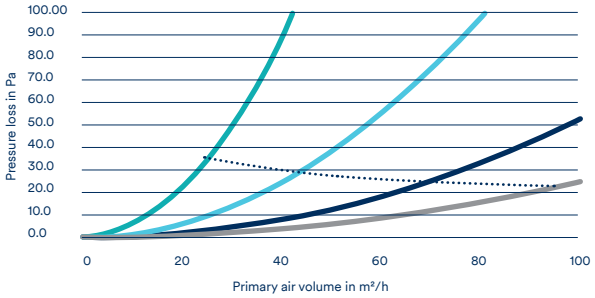
Additional information

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

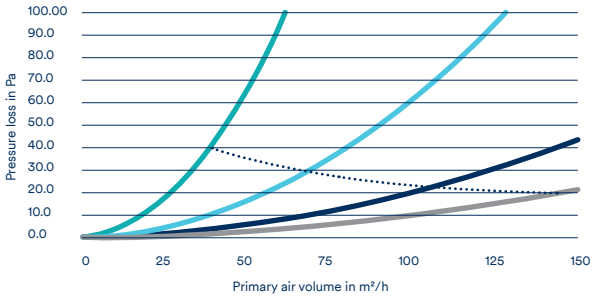
The upper limit of the air volume flow in the spigot is calculated from the maximum air speed and cross-section of the spigot. This speed should not exceed 3.0 m/s to avoid additional sound emissions. The resulting air-side pressure losses vary according to the air volume flow as per the diagram.

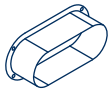
Design diagrams

DN 80

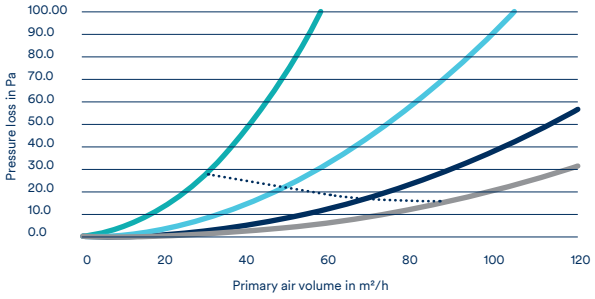


DN 100





Oval 51 x 128



With the slider opened by:

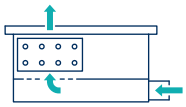
Sound power level 30 dB(A)

Supply air versions

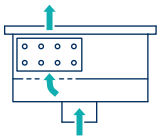
Katherm NK

With natural convection and additional output increase by convection with conditioned air.

With supply air spigot below

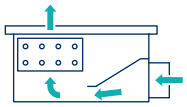


With air guidance through the coil.

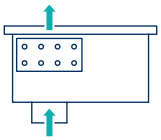


With air guidance through the coil and perforated plate underneath the coil.

With side supply air spigots



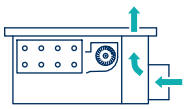
With air guidance through the coil.



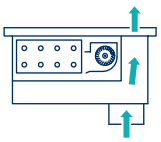
With air guidance through the coil and perforated plate underneath the coil.

Katherm QK

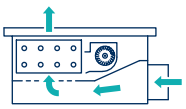
with fan-assisted convection and supply of fresh air.



With air guidance through a separate air discharge duct.



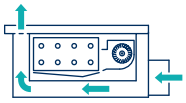
With air guidance through a separate air discharge duct.



With air guidance through the coil and perforated plate underneath the coil.

Katherm HK | HK E

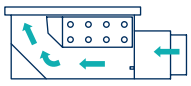
for heating and cooling with in-feed of supply air separately from the air flow from the fan.



With air guidance through separate supply air modules.

Katherm ID

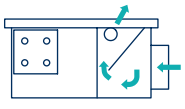
for heating and cooling with in-feed of supply air without fan.



With supply air in-feed under the coil. Secondary air is entrained by the coil.

Katherm QL

with natural convection and displacement air in heating mode too.



With separate natural convection supply air guidance in heating mode too. (displacement ventilation)

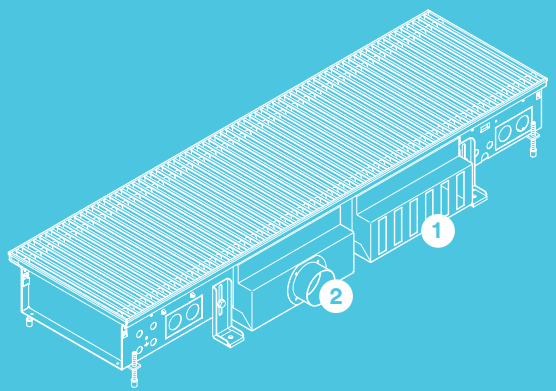
It's your choice

Alternative supply air in-feed through a pressurised floor

The drawing shows a Katherm HK with supply air box for spigots and for a pressurised floor (by way of example).

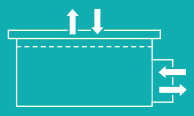
1 Supply air box for pressurised floor

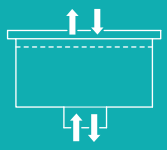
2 Supply air box for DN 80 spigot



The right one for everyone

Are the trench dimensions not feasible? They are!

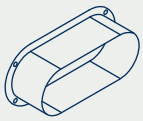
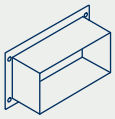
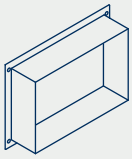




With all trench models, empty trenches with supply air spigots can be integrated into other trench models to feed in supply air. These trenches can also be used as pure extract air trenches.

Always a perfect fit

Dimensions of supply air versions

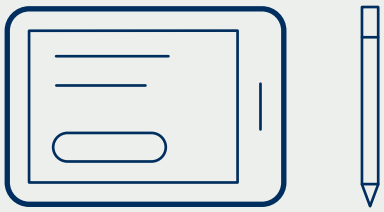
Dimensions [mm]		Max. air volume / spigot [m³/h]
	DN 60	31
	DN 70	42
	DN 80	55
	DN 100	85
	DN 125	133
	DN 150	191
	51 x 128	65
	50 x 100	54
	100 x 150	162

Service

We are always there for you!

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

Design

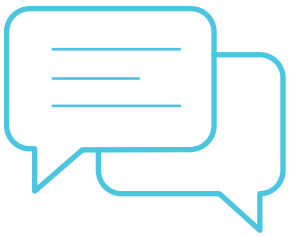


We would be pleased to produce project-specific design drawings and wiring diagrams for your project to make your design easier.

BIM data sets

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

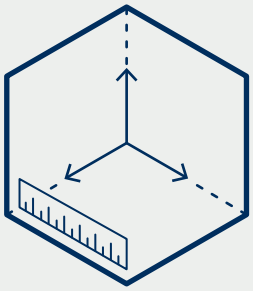
Consultation



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

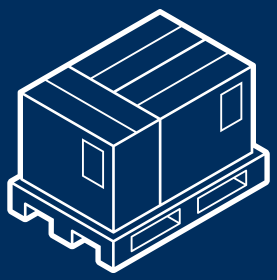
kampmanngroup.com/service →

Site measurement



The site measurements are taken by our own Kampmann technicians using 2D or 3D lasers to avoid inaccuracies. This ensures a precise and efficient site measurement process.

Delivery

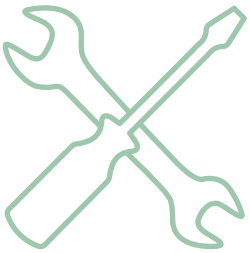


Kampmann products are delivered sorted on pallets to site. The delivery can be clearly assigned to the respective floors and installation position, thanks to clear position information on the packaging.

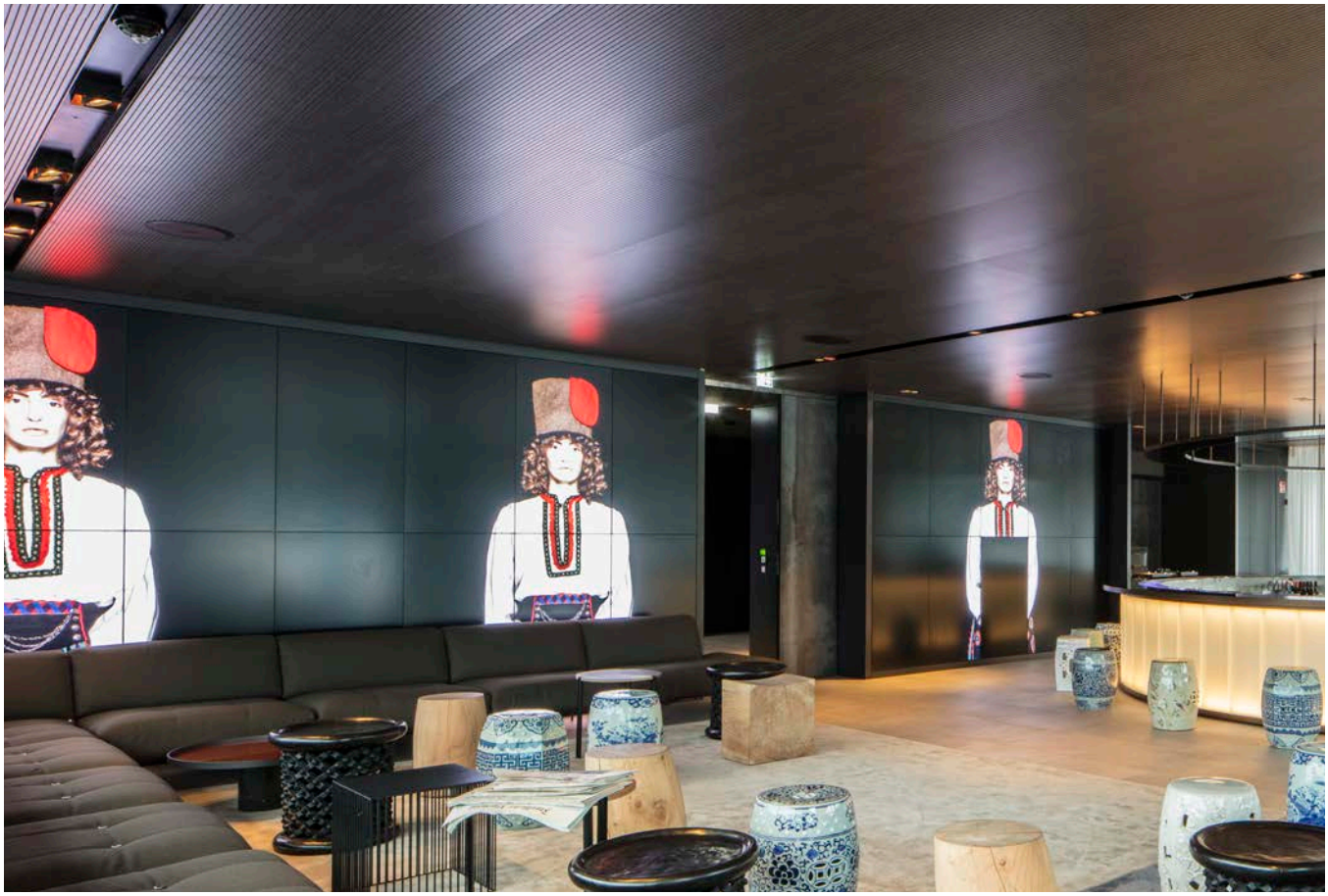
Customer service

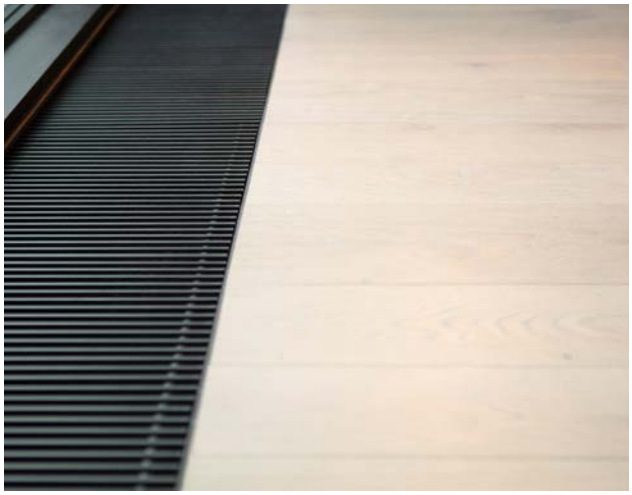
Rely on the organisation and deployment of our global Customer Service team. Our Kampmann service specialists will provide support at 3 sites and over 130 trained contract engineers at 80 national and international sites.

Installation



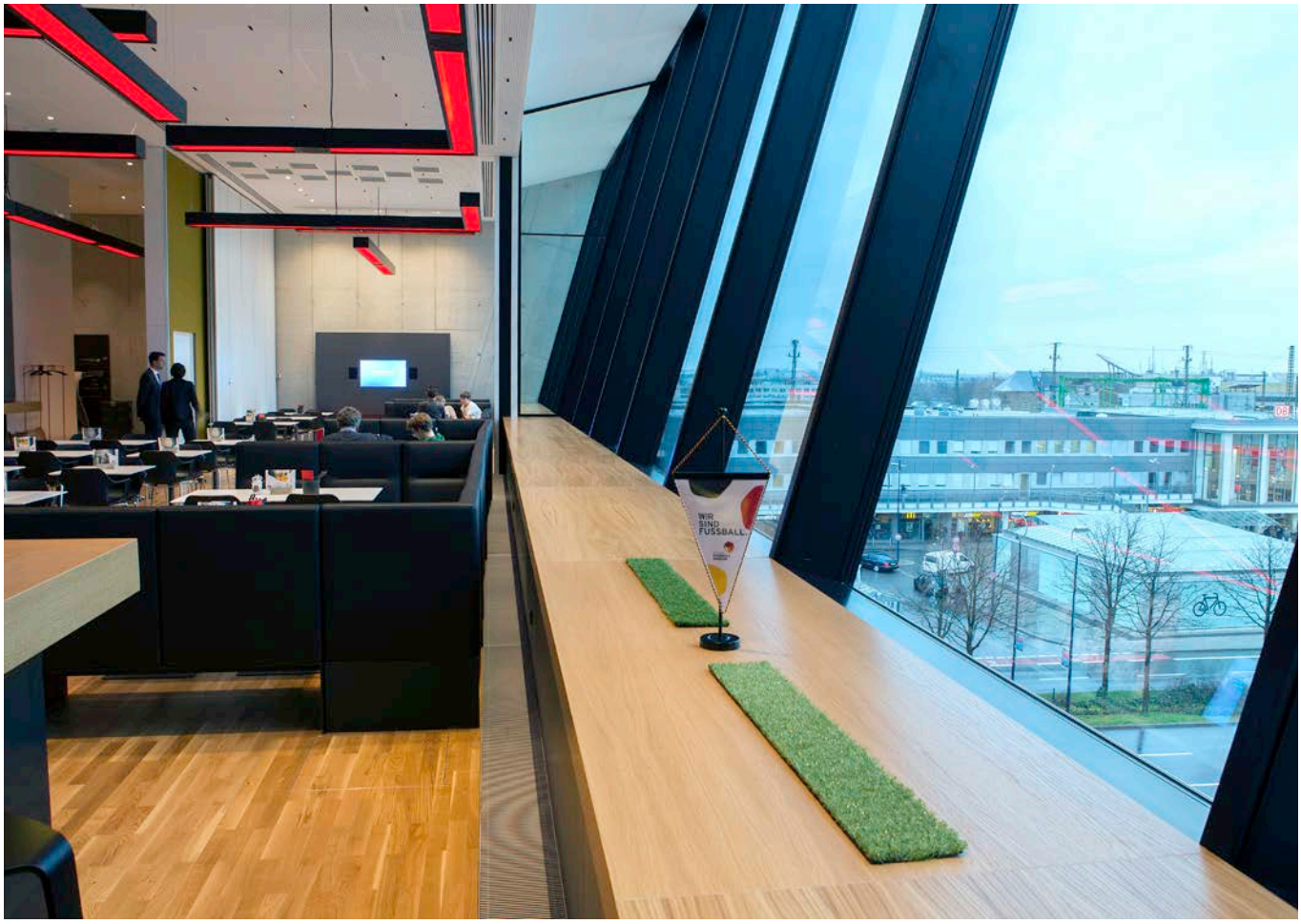
We can support you with our own installation team. Our trench heaters are configured to help the heating contractors on site. Skilled professionals then connect up the water pipes and electrics.





Hotel Roomers, Baden-Baden

The designer "Roomers Baden-Baden" hotel opened in October 2016. It has a perfect location, very close to the Festival Hall. The overall interior design concept and the room design was in the capable hands of the renowned Italian designer Piero Lisoni.



The site of the German Football Museum was determined in a multi-stage process – and a better site could not have been chosen. The museum is located in central Dortmund, a city with a major club and even greater footballing enthusiasm, which can be perfectly reached from all directions and is located directly opposite the main railways station.
The museum was designed by architects HPP (Hentrich-Petschnigg & Partner), based in Düsseldorf. "An ecologically and economically sustainable and efficient construction" was crucial to the German Football Association. That is one reason why Kampmann trench heating is installed underneath the high glazed façades around the ground floor and café.

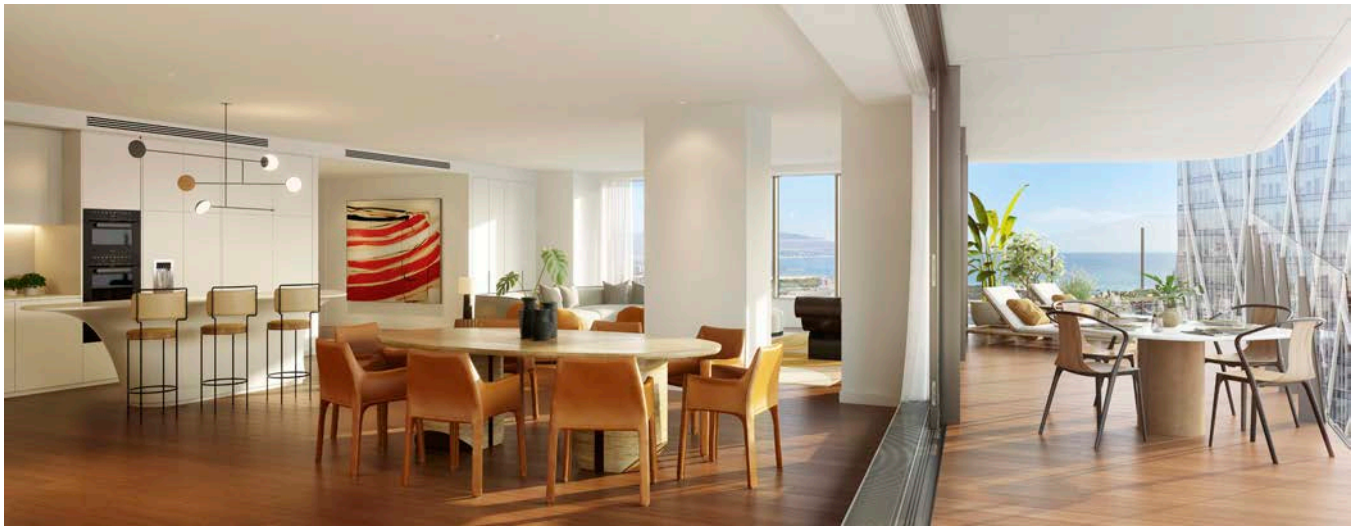
German Football Museum, Dortmund

Quartier Belvedere Central, Vienna

The "Quartier Belvedere Central", abbreviated to QBC, is an extraordinary project – not just because of its scale. Six buildings with a total gross floor area of 130000 square metres will be built on a 25000 square metre area of land. The QBC includes, among other things, hotels, offices, apartments, shops and restaurants - a mix that breathes life into the district even after dark.


NOVOTEL

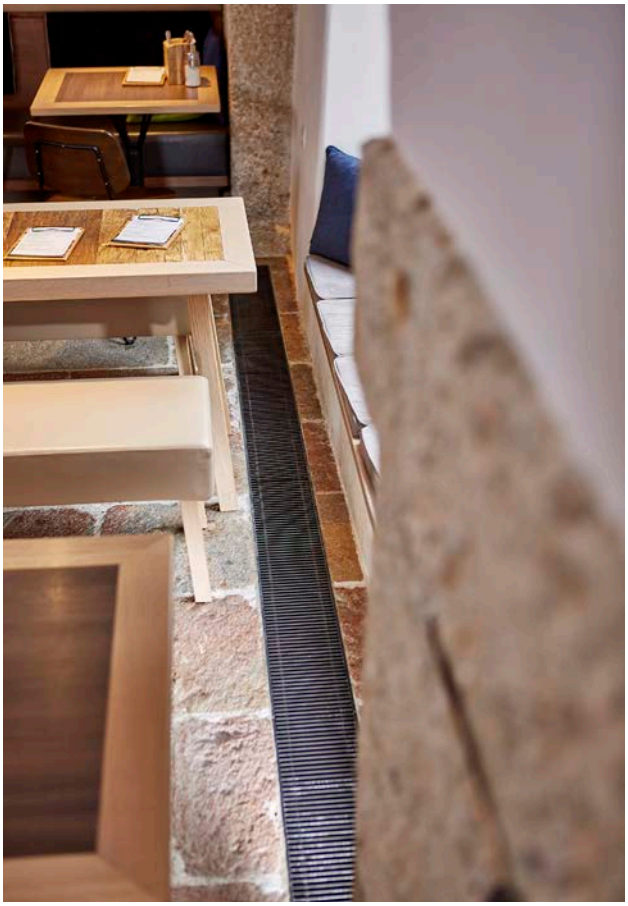

SB diagonal zero



Antares Tower, Barcelona

Antares is a luxury residential complex in the heart of one of Spain's main cities. The graceful 100-metre high building embellishes the skyline, while 1,300 metres of trench heaters have been fitted in the interior over 26 floors.
They provide individual air conditioning in the various rooms of the skyscraper, designed by world-famous architect Odile Decq complete with mitred corners and column recesses.

Hellbrunn Castle, Salzburg



The coils provide effective cold air screening in front of the large expanses of glazing in the new restaurant area and staff room in Hellbrunn Castle. The bronze anodised grilles match the rustic interior fit-out perfectly.

The high heat output of the coil was measured and confirmed in accordance with EN 16430. At the same time, the Katherm NK is ideal for energy-saving low-temperature operation.

Kampmann GmbH & Co. KG

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