Katherm QK
Trench Heating

Katherm QK

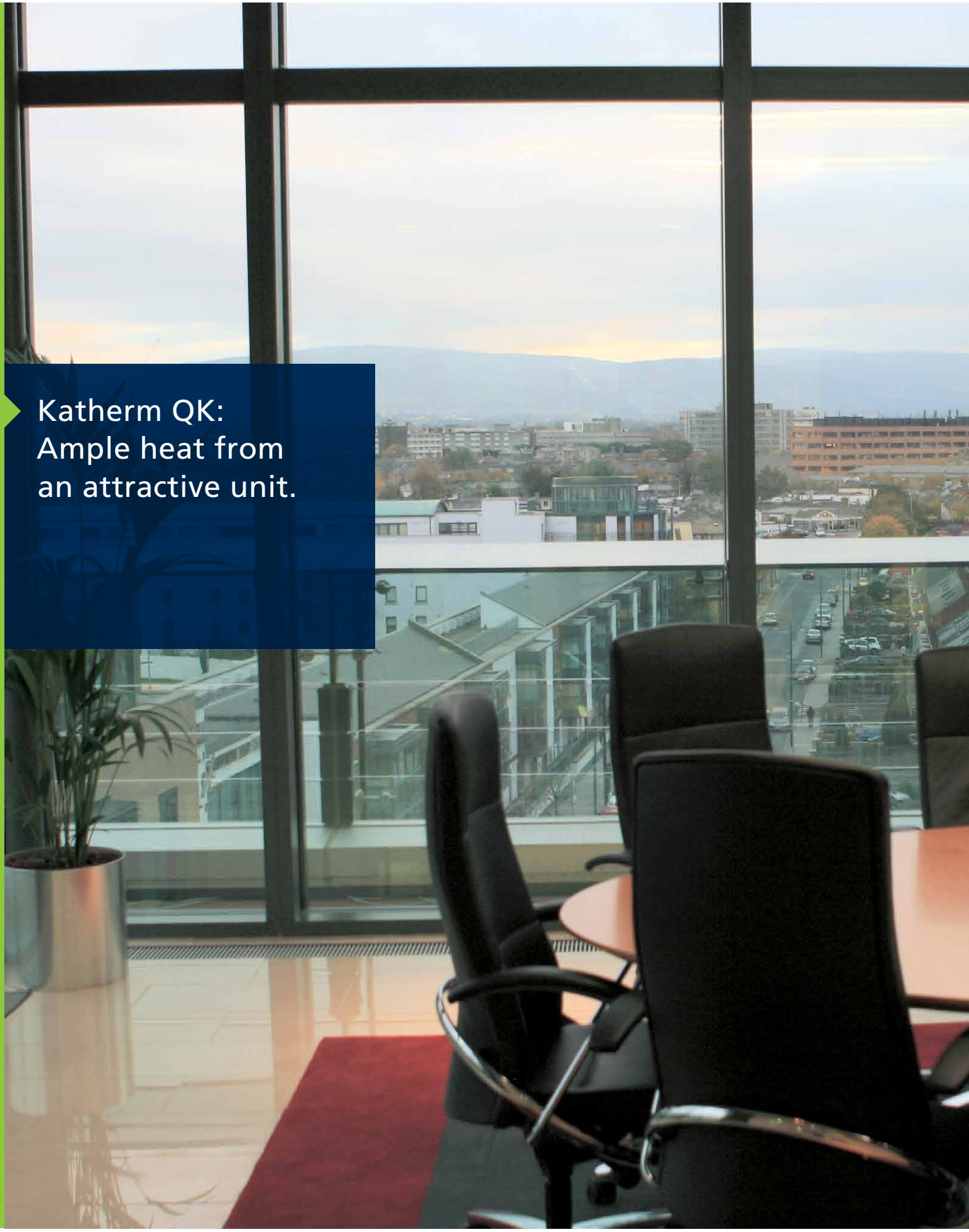
Trench heating with
Energy-efficient EC Cross-flow Fans

Technical Catalogue

KAMPMANN
Genau mein Klima.

Kampmann.co.uk/katherm_qk

Contents



Katherm QK: Ample heat from an attractive unit.

Arup Office Dublin, Ireland:
New milestone on the
Grand Canal Dock.
Expansion of a listed building to
become an administration centre.

01 Product Information

Katherm QK - high performance with a large range of sizes

Heaters positioned in front of windows are often unacceptable for aesthetic reasons in modern offices and other buildings with large glazed windows. At the same time, the needs of the users of the space to the aesthetics of the space also increase.

Katherm QK excel in particular with low water temperatures when combined with modern heating systems thanks to their compact design, energy-saving and whisper-quiet fans with EC motors and by high-performance convectors. Narrow trench widths of only 182–232 mm enable (almost) unrestricted use of the floor space. The trench widths of 207 mm and 232 mm can also be equipped with narrow convectors. Fitted with the most modern EC technology, the heat outputs from every width of Katherm QK are impressive. Measurements taken in the Kampmann Research & Development Centre helped to develop a sound-optimised floor trench, which helps to create a pleasant interior climate.

Operation

Air is drawn in by the fan and routed through the parallel convector. The convector arranged on the window side provides for optimum screening of cold air in front of the window. The stream of warm air this flow draught-free into the room.

EC technology

EC motors can be operated within a significantly wider speed range due to their intelligent integrated power electronics. Low speeds generate only very low noise, partially far below the audible threshold or the usual measuring range. They means that people can spend time peacefully in living rooms, offices and hotel bedrooms.
The intelligent motor management permanently detects the operating state and keeps the pre-set speed constant, regardless of the fan length and external influences.

Fans

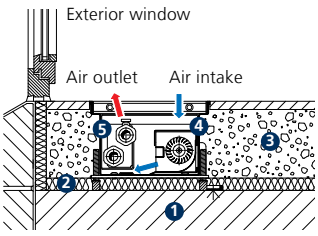
The cross-flow fans are matched to the application, optimised in terms of air flow and are adapted to the length of the convectors.

Control

An electromechanical control option using a rooms thermostat or alternatively the KaControl system are both available for infinitely adjustable control of the Katherm QK units.
KaControl represents a system solution for maximum energy efficiency, limitless integration options into building automation systems and the highest degree of user-friendly operating philosophy.

Katherm QK 182

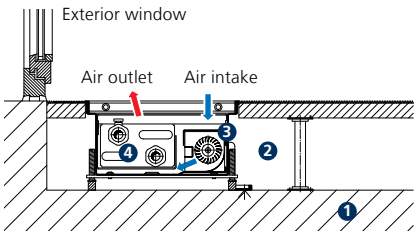
(Installed in screed, trench height 112 mm)



1. Concrete floor
2. Heat and sound insulation
3. Screed
4. Floor trench
5. High-output convector

Katherm QK 232

(Installed in a raised floor, trench height 112 mm)

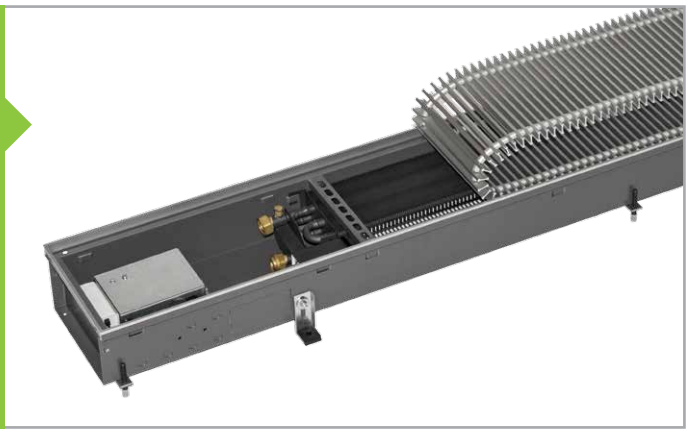


1. Concrete floor
2. False floor
3. Floor trench
4. High-output convector

Product Data

Product Features

- Whisper-quiet EC technology
- Shallower depths and high outputs
- Complete adaptation to building contours



Features:

Standard range
3 trench widths, 12 trench lengths, 1 trench height. Notwithstanding the standard range (NP), the products can also be individually manufactured in line with the non-standard programme (MP).

Convection	EC cross-flow fans
Heating	LPHW
Cooling	---
Ventilation	---
KaControl	Integrated
System	2-pipe

Grille finishes
- Roll-up grilles
- Linear grilles

Performance data

Heat output [1] [W]
- 262 – 5982

Sound pressure level [2] [dB(A)]
- 28 – 36

Sound power level [dB(A)]
- 36 – 44

Uses

All areas of buildings in which effective heating and cold air screening is required. Effective, energy-saving heating can be provided by Katherm QK in conjunction with modern heating systems.

Hotels/ motels

Sales rooms and showrooms

Office and meeting rooms

Residential areas and conservatories

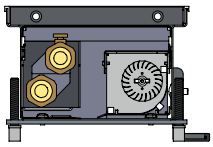
Restaurants and cafés

[1] At LPHW 75/65 °C, t_{L1} = 20 °C, at 60% fan speed.
[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 100m³ and a reverberation time of 0.5 s (in accordance with VDI 2081), at an average fan speed of 60%.

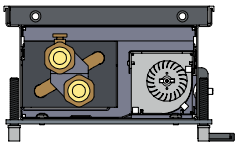
Selection Assistance: Overview of Models

Model	Trench width	Trench height	Trench length 200 mm increment	Heat output[1]	Sound pressure level[2]	Sound power level	Further information
	[mm]	[mm]	[mm]	[W]	[dB(A)]	[dB(A)]	
QK 182	182	112	1000 – 3200	262 – 2851	< 20[3] – 36	< 28[3] – 44	**Page 16**
QK 207	207	112	1000 – 3200	371 – 4938	< 20[3] – 36	< 28[3] – 44	**Page 20**
QK 207s (S-version: narrow convector)				309 – 2892			**Page 24**
QK 232	232	112	1000 – 3200	529 – 5982	< 20[3] – 36	< 28[3] – 44	**Page 28**
QK 232s (S-version: narrow convector)				456 – 4752			**Page 32**

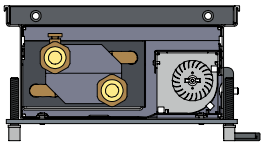
Sectional views



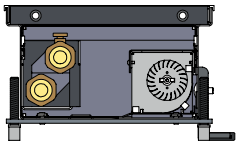
Katherm QK 182



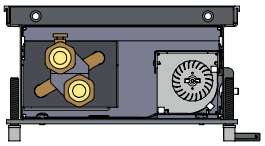
Katherm QK 207



Katherm QK 232



Katherm QK 207s



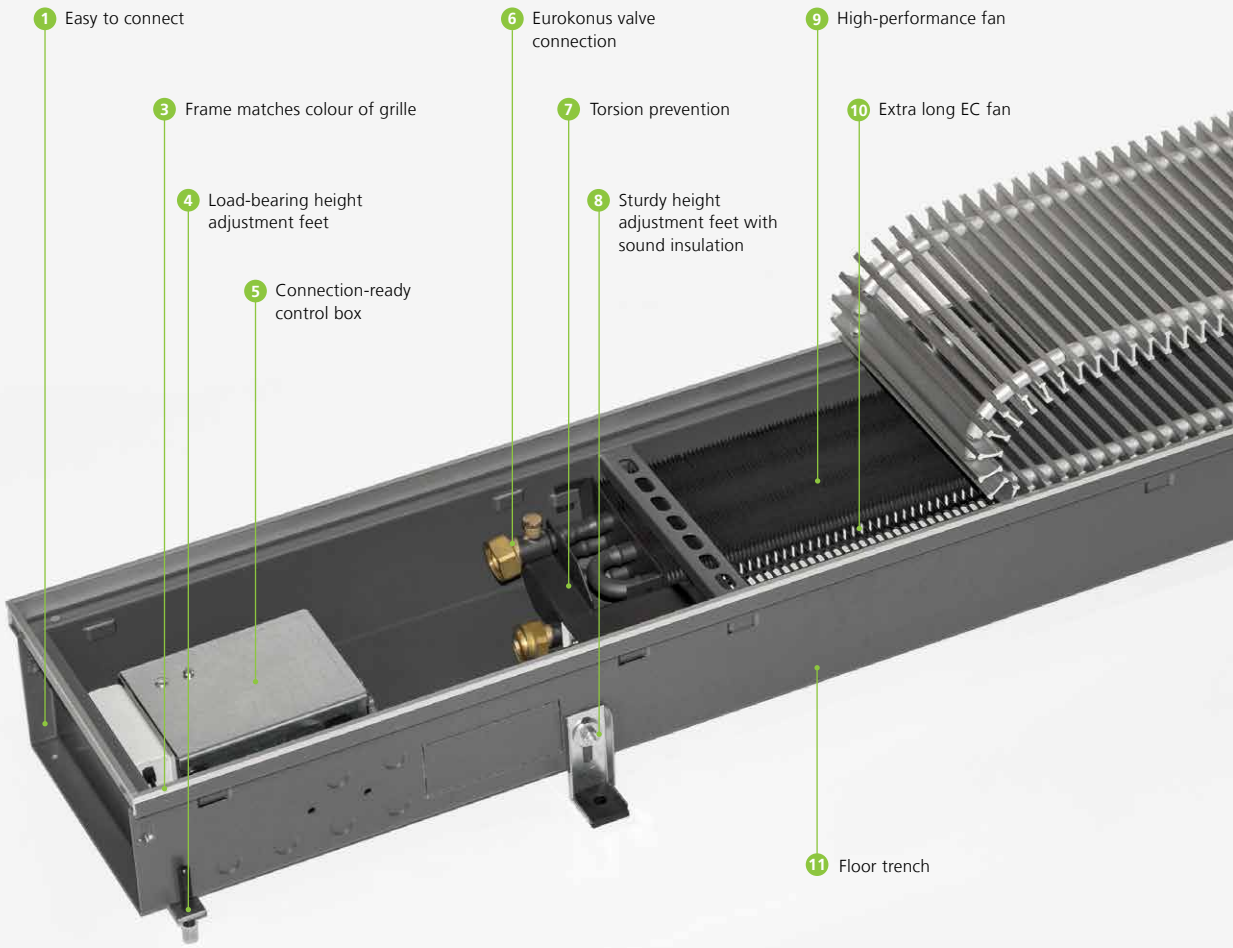
Katherm QK 232s

[1] At LPHW 75/65, t_{L1} = 20 °C, with fan-assisted convection. The heat outputs were measured and determined in accordance with DIN EN 16430 „Fan-assisted radiators, convectors and trench convectors" Part 1: „Technical specifications and requirements" and Part 2: „Test procedures and evaluation of heat outputs.

[2] The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance 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 measuring and audible range.

Katherm QK at a glance



Features:

1 Easy to connect:
- Removable end panel for ease of connection of trenches

2 Cover plate:
- As visual protection and to protect against dirt

3 Frame matches colour of grille

4 Load-bearing height adjustment feet:
- For the safe mounting of the trench

5 Connection-ready control box:
- For quick and safe electrical connection
- Saves installation time

6 Eurokonus valve connection:
- For fast connection
- Saves installation time

7 Torsion prevention:
- Prevents damage to the convector when installing the valves
- Optional valves (accessories)

8 Sturdy height adjustment feet with sound insulation:
- For simple fixing of the floor trench
- Prevents sound transmission

9 High-performance fan:
- The proven combination of copper/aluminium
- Optimised for air flow and heat dissipation
- Painted graphite-grey

10 Extra-long EC fan:
- For an even airflow through the convector, providing high heat outputs with low noise emissions
- Robust motor design
- Infinitely variable speed control via an external 0–10 V signal
- Motor monitoring with internal fault processing

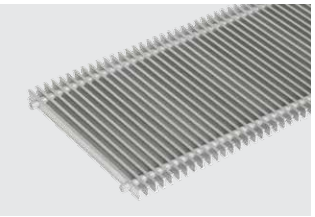
11 Floor trench:
- Galvanised sheet steel
- Painted graphite grey on both sides
- With cross bracing to reinforce the floor trench

A Aluminium roll-up grille, natural anodised:
- Double T-profile roll-up or linear grille
- Bar dimensions 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

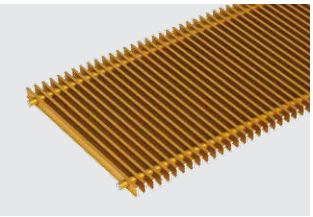
Matching grilles

Roll-up grilles

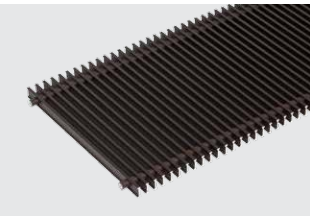
Aluminium
Natural anodised



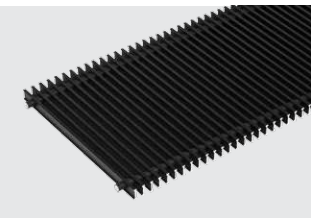
Aluminium
Brass anodised



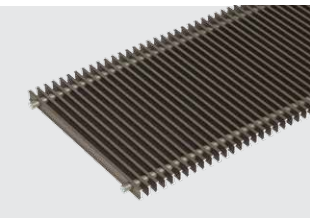
Aluminium
Bronze anodised



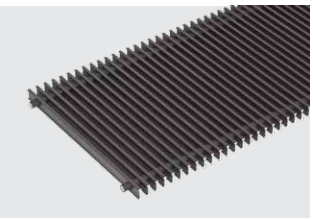
Aluminium
Black anodised



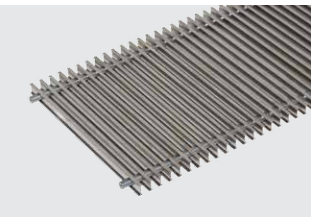
Aluminium
Bronze finish



Aluminium
Painted DB 703

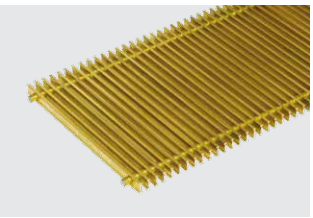


Stainless steel
Natural



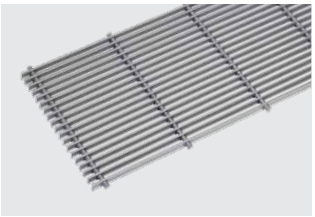
Stainless steel
Polished

Brass
Natural CuZn 44

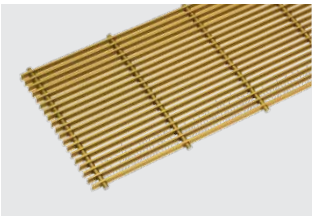


Linear grilles

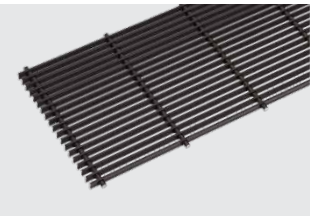
Aluminium
Natural anodised



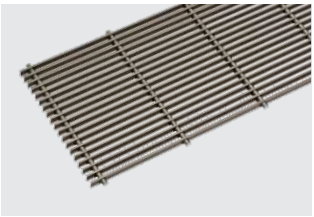
Aluminium
Brass anodised



Aluminium
Bronze anodised

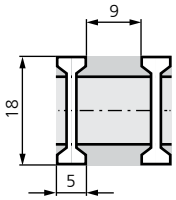


Aluminium
Bronze finish



Profile dimensions

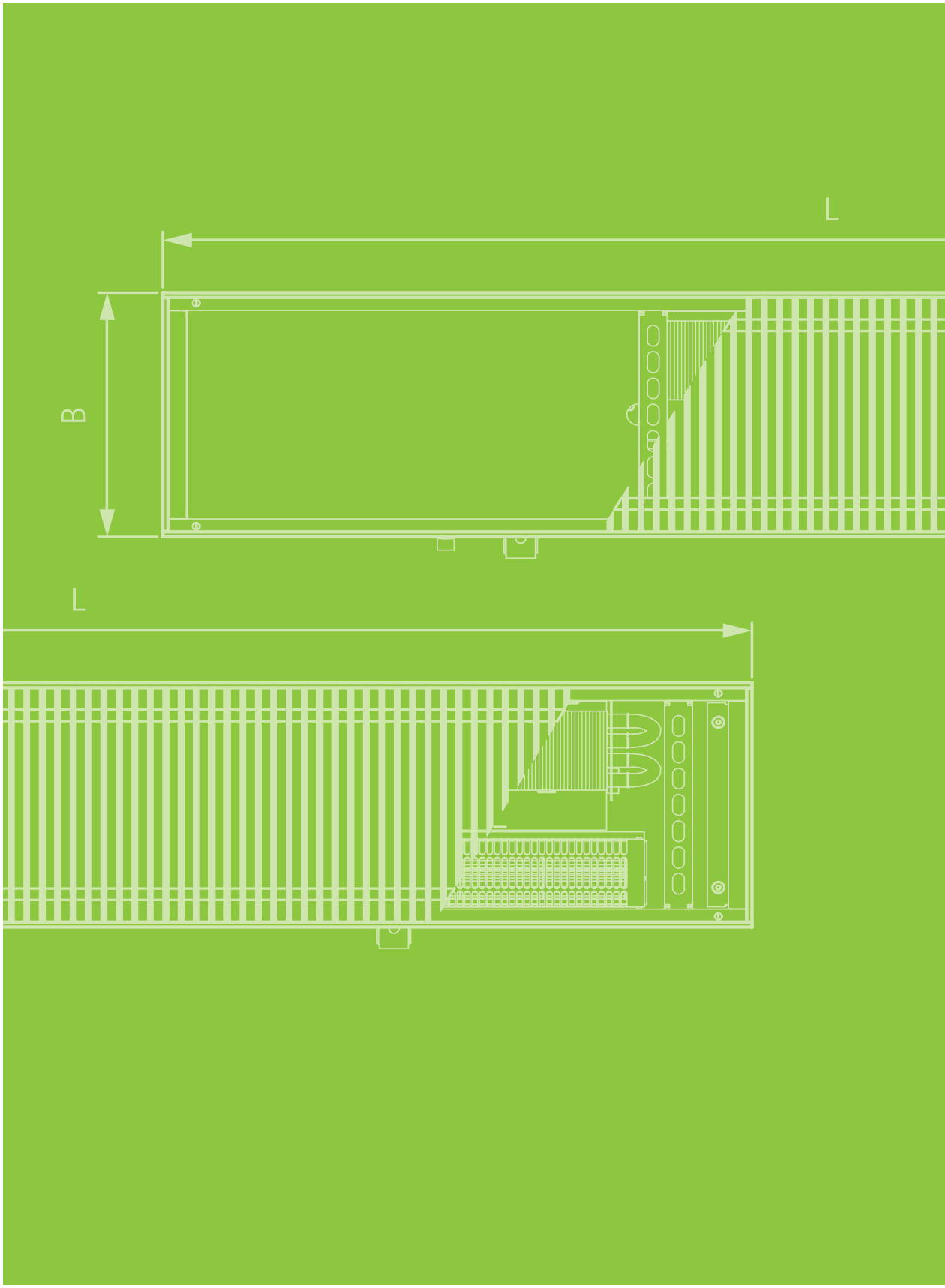
Double-T profile



- For more grilles, please refer to **Kampmann.co.uk/grilles**

The above grilles are shown using a four-colour printing process and thus do not represent an exact reproduction of the original colour.

02 Technical Data



Advice on Measuring Conditions

Heat outputs

The heat outputs were measured in accordance with EN 16430 „Fan-assisted heaters, convectors and trench convectors“ (Version dated May 2012).

Part 1 „Technical Specification and Requirements“
Part 2 „Test Method and Evaluation of Heat Output“

The standard regulates the performance measurements specifically of trench convectors based on EN 442 „Radiators and Convectors“.

Part 1 „Technical Specification and Requirements“
Part 2 „Test Procedure and Performance Data“

The specific requirements for trench heating are taken into account in EN 16430.
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).
Surface temperature of the external wall 16°C.
Practical layout at a distance of 50 mm from the glazing.

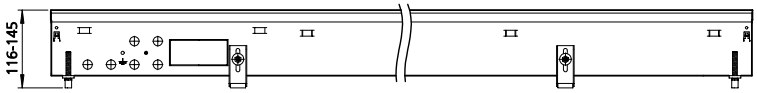
Acoustics

Katherm QK are very often used in acoustically sensitive areas.Accordingly, Katherm QK have been optimised in terms of noise levels. 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. The sound power level is measured according to EN ISO 3744 (TW) in a semi-low reflective sound measuring chamber.

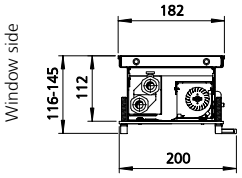
Sound measuring chamber

Katherm QK 182

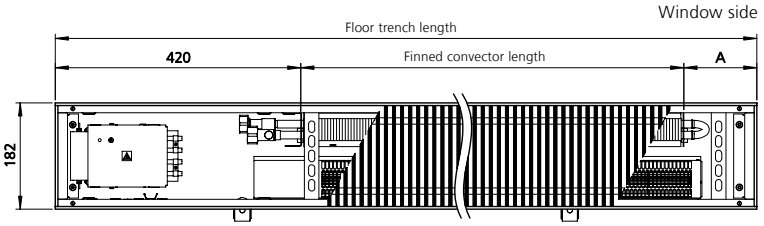
Technical Drawings (all dimensions in mm)



Front view



Cross-section
(example showing roll-up grille)



Top view (view without cover panel)

Trench length	A	Trench length	A
[mm]	[mm]	[mm]	[mm]
1000	160	**2200**	150
1200	125	**2400**	150
1400	115	**2600**	115
1600	90	**2800**	105
1800	80	**3000**	95
2000	280	**3200**	95

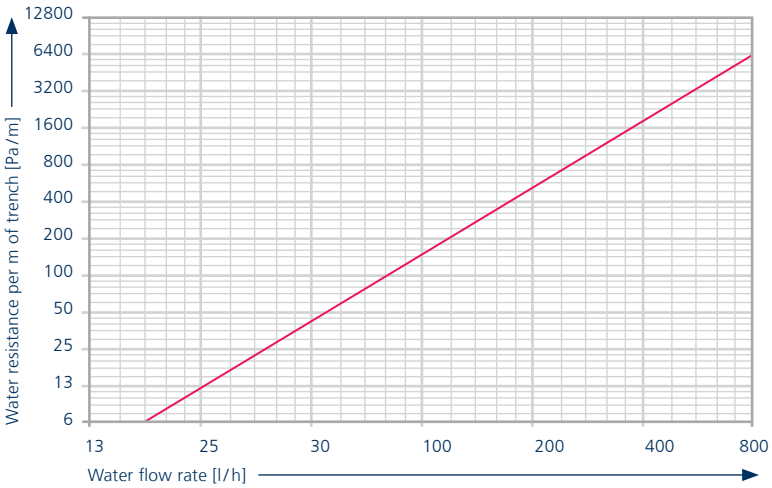
Specifications

Connections, female thread:
Eurokonus, same end,
connections on left

Make use of our online calculation programs to calculate your heat outputs and flow rates with a couple of clicks!

- **Kampmann.co.uk/ calculation_programs**

Water resistance: Heating curves



Services

Fan stage	at fan speed	Heat outputs [1]		Power consumption [2]	Air flow volume	Sound pressure level [3]	Sound power level
		at LPHW 75 / 65 °C	at LPWW 55 / 45 °C				
	[%]	Q_N [W]	Q [W]	P [W]	[m³/h]	[dB(A)]	[dB(A)]
Trench length 1000 mm							
Boost stage	100	455	267	6	91	28	36
Design levels	80	420	247	5	86	26	34
	60	359	209	4	70	21	29
	40	317	185	3	52	< 20 [4]	< 28 [4]
Minimum stage	20	262	152	3	43	< 20 [4]	< 28 [4]
Natural convection		70	30	---	---	---	---
Trench length 1200 mm							
Boost stage	100	704	414	7	137	30	38
Design levels	80	649	381	6	129	28	36
	60	554	323	5	105	23	31
	40	491	285	4	78	< 20 [4]	< 28 [4]
Minimum stage	20	406	235	3	65	< 20 [4]	< 28 [4]
Natural convection		109	47	---	---	---	---
Trench length 1400 mm							
Boost stage	100	915	538	7	183	31	39
Design levels	80	844	496	6	172	29	37
	60	721	420	5	139	24	32
	40	638	371	4	104	< 20 [4]	< 28 [4]
Minimum stage	20	528	306	3	87	< 20 [4]	< 28 [4]
Natural convection		141	61	---	---	---	---
Trench length 1600 mm							
Boost stage	100	1164	684	8	228	32	40
Design levels	80	1073	631	7	215	30	38
	60	917	534	6	174	25	33
	40	811	472	4	130	< 20 [4]	< 28 [4]
Minimum stage	20	671	389	3	108	< 20 [4]	< 28 [4]
Natural convection		180	77	---	---	---	---

more »

Q_N [W] = Rated heat output
Q [W] = Heat output

[1] At room air temperature t_L = 20 °C.
[2] Add an additional power uptake if 3 W per valve drive type 146906.
[3] The sound pressure levels were calculated at 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.

Katherm QK 182

Services

Fan stage	at fan speed	Heat outputs [1]		Power consumption [2]	Air flow volume	Sound pressure level [3]	Sound power level
		at LPHW 75 / 65 °C	at LPWW 55 / 45 °C				
	[%]	Q_N [W]	Q [W]	P [W]	[m³/h]	[dB(A)]	[dB(A)]
Trench length 1800 mm							
Boost stage	100	1375	809	9	274	33	41
Design levels	80	1269	746	8	258	31	39
	60	1084	631	6	209	26	34
	40	959	558	4	156	< 20 [4]	< 28 [4]
Minimum stage	20	793	459	4	130	< 20 [4]	< 28 [4]
Natural convection		212	91	---	---	---	---
Trench length 2000 mm							
Boost stage	100	1375	809	9	274	33	41
Design levels	80	1269	746	8	258	31	39
	60	1084	631	6	209	26	34
	40	959	558	4	156	< 20 [4]	< 28 [4]
Minimum stage	20	793	459	4	130	< 20 [4]	< 28 [4]
Natural convection		212	91	---	---	---	---
Trench length 2200 mm							
Boost stage	100	1735	1020	15	320	34	42
Design levels	80	1600	941	13	301	32	40
	60	1367	796	10	244	27	35
	40	1210	704	7	182	< 20 [4]	< 28 [4]
Minimum stage	20	1001	579	6	152	< 20 [4]	< 28 [4]
Natural convection		268	115	---	---	---	---
Trench length 2400 mm							
Boost stage	100	1947	1144	16	365	34	42
Design levels	80	1796	1056	14	344	32	40
	60	1534	893	11	279	27	35
	40	1357	790	8	208	20	28
Minimum stage	20	1123	650	6	173	< 20 [4]	< 28 [4]
Natural convection		301	129	---	---	---	---

more »

Q_N [W] = Rated heat output
Q [W] = Heat output

[1] At room air temperature t_L = 20 °C.
[2] Add an additional power uptake if 3 W per valve drive type 146906.
[3] The sound pressure levels were calculated at 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.

Services

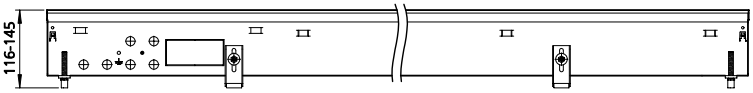
Fan stage	at fan speed	Heat outputs [1]		Power consumption [2]	Air flow volume	Sound pressure level [3]	Sound power level
		at LPHW 75 / 65 °C	at LPWW 55 / 45 °C				
	[%]	Q_N [W]	Q [W]	P [W]	[m³/h]	[dB(A)]	[dB(A)]
Trench length 2600 mm							
Boost stage	100	2195	1290	17	411	35	43
Design levels	80	2025	1190	15	387	33	41
	60	1730	1007	11	314	28	36
	40	1531	891	8	234	21	29
Minimum stage	20	1266	733	7	195	< 20 [4]	< 28 [4]
Natural convection		339	146	---	---	---	---
Trench length 2800 mm							
Boost stage	100	2407	1415	18	457	35	43
Design levels	80	2220	1305	15	430	33	41
	60	1897	1104	12	348	28	36
	40	1678	976	8	260	21	29
Minimum stage	20	1388	804	7	217	< 20 [4]	< 28 [4]
Natural convection		372	160	---	---	---	---
Trench length 3000 mm							
Boost stage	100	2640	1552	19	502	36	44
Design levels	80	2435	1431	16	473	34	42
	60	2080	1210	13	383	29	37
	40	1840	1071	9	286	22	30
Minimum stage	20	1522	881	7	238	< 20 [4]	< 28 [4]
Natural convection		408	175	---	---	---	---
Trench length 3200 mm							
Boost stage	100	2851	1676	20	548	36	44
Design levels	80	2630	1546	17	516	34	42
	60	2247	1307	13	418	29	37
	40	1988	1157	9	312	22	30
Minimum stage	20	1644	952	8	260	< 20 [4]	< 28 [4]
Natural convection		440	190	---	---	---	---

Q_N [W] = Rated heat output
Q [W] = Heat output

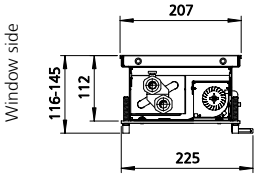
[1] At room air temperature t_L = 20 °C.
[2] Add an additional power uptake if 3 W per valve drive type 146906.
[3] The sound pressure levels were calculated at an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in 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.

Katherm QK 207

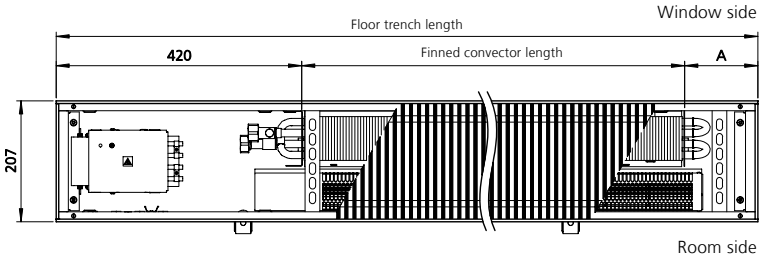
Technical Drawings (all dimensions in mm)



Front view



Cross-section
(example showing roll-up grille)



Top view (view without cover panel)

Trench length	A	Trench length	A
[mm]	[mm]	[mm]	[mm]
1000	160	**2200**	150
1200	125	**2400**	150
1400	115	**2600**	115
1600	90	**2800**	105
1800	80	**3000**	95
2000	280	**3200**	95

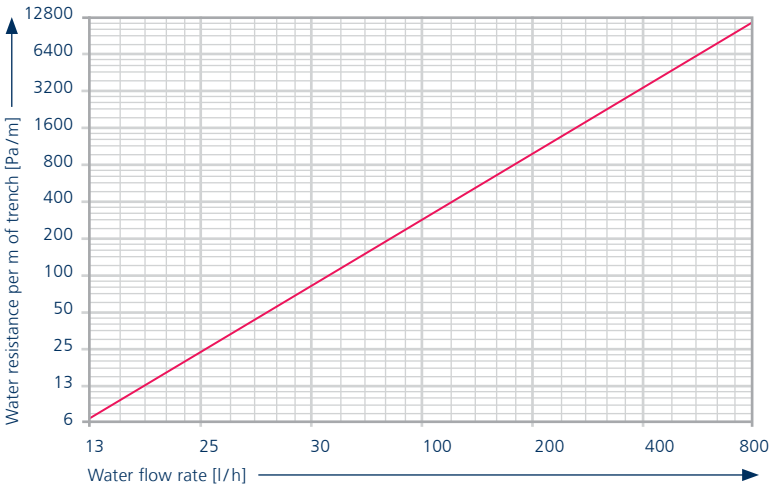
Specifications

Connections, female thread:
Eurokonus, same end,
connections on left

Make use of our online calculation programs to calculate your heat outputs and flow rates with a couple of clicks!

- **Kampmann.co.uk/ calculation_programs**

Water resistance: Heating curves



Services

Fan stage	at fan speed	Heat outputs [1]		Power consumption [2]	Air flow volume	Sound pressure level [3]	Sound power level
		at LPHW 75 / 65 °C	at LPWW 55 / 45 °C				
	[%]	Q_N [W]	Q [W]	P [W]	[m³/h]	[dB(A)]	[dB(A)]
Trench length 1000 mm							
Boost stage	100	788	473	6	91	28	36
Design levels	80	714	428	5	86	26	34
	60	593	359	4	70	21	29
	40	489	293	3	52	< 20[4]	< 28[4]
Minimum stage	20	371	218	3	43	< 20[4]	< 28[4]
Natural convection		87	38	---	---	---	---
Trench length 1200 mm							
Boost stage	100	1219	731	7	137	30	38
Design levels	80	1104	662	6	129	28	36
	60	917	556	5	105	23	31
	40	756	454	4	78	< 20[4]	< 28[4]
Minimum stage	20	574	337	3	65	< 20[4]	< 28[4]
Natural convection		135	59	---	---	---	---
Trench length 1400 mm							
Boost stage	100	1585	951	7	183	31	39
Design levels	80	1436	862	6	172	29	37
	60	1192	723	5	139	24	32
	40	983	590	4	104	< 20[4]	< 28[4]
Minimum stage	20	746	439	3	87	< 20[4]	< 28[4]
Natural convection		175	77	---	---	---	---
Trench length 1600 mm							
Boost stage	100	2016	1209	8	228	32	40
Design levels	80	1826	1096	7	215	30	38
	60	1516	919	6	174	25	33
	40	1250	750	4	130	< 20[4]	< 28[4]
Minimum stage	20	949	558	3	108	< 20[4]	< 28[4]
Natural convection		223	98	---	---	---	---

more »

Q_N [W] = Rated heat output
Q [W] = Heat output

[1] At room air temperature t_L = 20 °C.
[2] Add an additional power uptake if 3 W per valve drive type 146906.
[3] The sound pressure levels were calculated at 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.

Katherm QK 207

Services

Fan stage	at fan speed	Heat outputs [1]		Power consumption [2]	Air flow volume	Sound pressure level [3]	Sound power level
		at LPHW 75 / 65 °C	at LPWW 55 / 45 °C				
	[%]	Q_N [W]	Q [W]	P [W]	[m³/h]	[dB(A)]	[dB(A)]
Trench length 1800 mm							
Boost stage	100	2382	1429	9	274	33	41
Design levels	80	2158	1295	8	258	31	39
	60	1792	1086	6	209	26	34
	40	1478	887	4	156	< 20 [4]	< 28 [4]
Minimum stage	20	1121	659	4	130	< 20 [4]	< 28 [4]
Natural convection		263	116	---	---	---	---
Trench length 2000 mm							
Boost stage	100	2382	1429	9	274	33	41
Design levels	80	2158	1295	8	258	31	39
	60	1792	1086	6	209	26	34
	40	1478	887	4	156	< 20 [4]	< 28 [4]
Minimum stage	20	1121	659	4	130	< 20 [4]	< 28 [4]
Natural convection		263	116	---	---	---	---
Trench length 2200 mm							
Boost stage	100	3005	1803	15	320	34	42
Design levels	80	2723	1634	13	301	32	40
	60	2261	1370	10	244	27	35
	40	1864	1119	7	182	< 20 [4]	< 28 [4]
Minimum stage	20	1414	832	6	152	< 20 [4]	< 28 [4]
Natural convection		332	164	---	---	---	---
Trench length 2400 mm							
Boost stage	100	3372	2023	16	365	34	42
Design levels	80	3055	1833	14	344	32	40
	60	2536	1537	11	279	27	35
	40	2092	1255	8	208	20	28
Minimum stage	20	1587	933	6	173	< 20 [4]	< 28 [4]
Natural convection		372	164	---	---	---	---

more »

Q_N [W] = Rated heat output
Q [W] = Heat output

[1] At room air temperature t_L = 20 °C.
[2] Add an additional power uptake if 3 W per valve drive type 146906.
[3] The sound pressure levels were calculated at 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.

Services

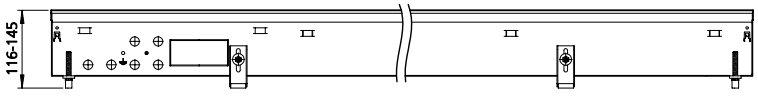
Fan stage	at fan speed	Heat outputs [1]		Power consumption [2]	Air flow volume	Sound pressure level [3]	Sound power level
		at LPHW 75 / 65 °C	at LPWW 55 / 45 °C				
	[%]	Q_N [W]	Q [W]	P [W]	[m³/h]	[dB(A)]	[dB(A)]
Trench length 2600 mm							
Boost stage	100	3802	2281	17	411	35	43
Design levels	80	3445	2067	15	387	33	41
	60	2860	1734	11	314	28	36
	40	2359	1415	8	234	21	29
Minimum stage	20	1790	1052	7	195	< 20 [4]	< 28 [4]
Natural convection		420	185	---	---	---	---
Trench length 2800 mm							
Boost stage	100	4169	2501	18	457	35	43
Design levels	80	3777	2266	15	430	33	41
	60	3136	1901	12	348	28	36
	40	2586	1552	8	260	21	29
Minimum stage	20	1962	1153	7	217	< 20 [4]	< 28 [4]
Natural convection		460	202	---	---	---	---
Trench length 3000 mm							
Boost stage	100	4572	2743	19	502	36	44
Design levels	80	4142	2485	16	473	34	42
	60	3439	2085	13	383	29	37
	40	2836	1702	9	286	22	30
Minimum stage	20	2152	1265	7	238	< 20 [4]	< 28 [4]
Natural convection		505	222	---	---	---	---
Trench length 3200 mm							
Boost stage	100	4938	2963	20	548	36	44
Design levels	80	4474	2684	17	516	34	42
	60	3715	2252	13	418	29	37
	40	3064	1838	9	312	22	30
Minimum stage	20	2324	1366	8	260	< 20 [4]	< 28 [4]
Natural convection		546	240	---	---	---	---

Q_N [W] = Rated heat output
Q [W] = Heat output

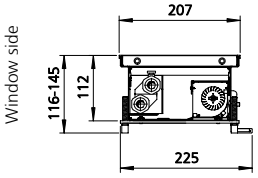
[1] At room air temperature t_L = 20 °C.
[2] Add an additional power uptake if 3 W per valve drive type 146906.
[3] The sound pressure levels were calculated at an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in 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.

Katherm QK 207s (narrow convector)

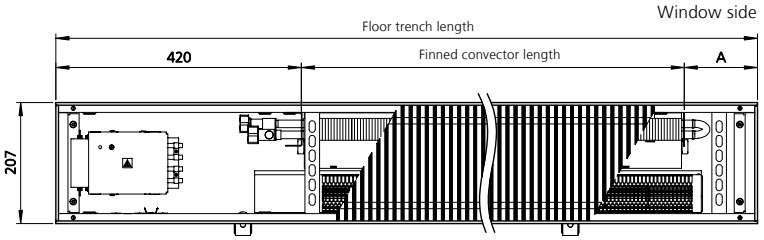
Technical Drawings (all dimensions in mm)



Front view



Cross-section
(example showing roll-up grille)



Top view (view without cover panel)

Trench length	A	Trench length	A
[mm]	[mm]	[mm]	[mm]
1000	160	**2200**	150
1200	125	**2400**	150
1400	115	**2600**	115
1600	90	**2800**	105
1800	80	**3000**	95
2000	280	**3200**	95

Specifications

Connections, female thread:
Eurokonus, same end,
connections on left

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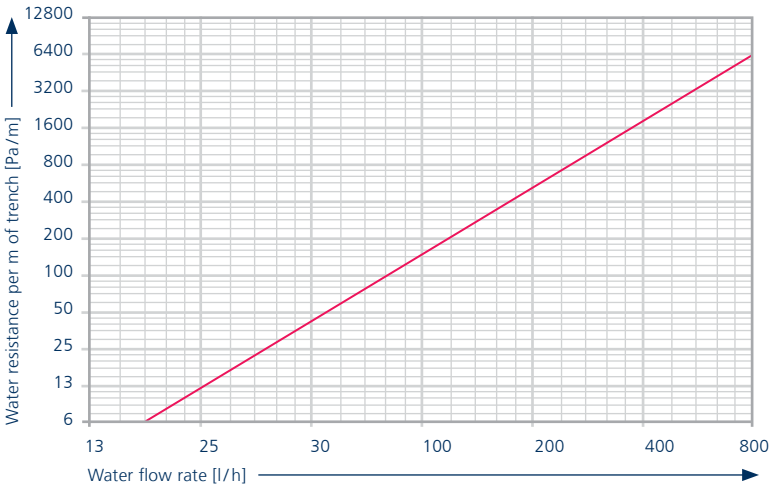
Water resistance: Heating curves



Services

Fan stage	at fan speed	Heat outputs [1]		Power consumption [2]	Air flow volume	Sound pressure level [3]	Sound power level
		at LPHW 75 / 65 °C	at LPWW 55 / 45 °C				
	[%]	Q_N [W]	Q [W]	P [W]	[m³/h]	[dB(A)]	[dB(A)]
Trench length 1000 mm							
Boost stage	100	461	266	6	91	28	36
Design levels	80	425	246	5	86	26	34
	60	387	225	4	70	21	29
	40	350	202	3	52	< 20 [4]	< 28 [4]
Minimum stage	20	309	178	3	43	< 20 [4]	< 28 [4]
Natural convection		69	28	---	---	---	---
Trench length 1200 mm							
Boost stage	100	714	411	7	137	30	38
Design levels	80	657	381	6	129	28	36
	60	599	349	5	105	23	31
	40	541	313	4	78	< 20 [4]	< 28 [4]
Minimum stage	20	478	275	3	65	< 20 [4]	< 28 [4]
Natural convection		106	44	---	---	---	---
Trench length 1400 mm							
Boost stage	100	928	535	7	183	31	39
Design levels	80	855	495	6	172	29	37
	60	779	453	5	139	24	32
	40	703	407	4	104	< 20 [4]	< 28 [4]
Minimum stage	20	622	358	3	87	< 20 [4]	< 28 [4]
Natural convection		138	57	---	---	---	---
Trench length 1600 mm							
Boost stage	100	1180	680	8	228	32	40
Design levels	80	1088	630	7	215	30	38
	60	991	577	6	174	25	33
	40	894	518	4	130	< 20 [4]	< 28 [4]
Minimum stage	20	791	455	3	108	< 20 [4]	< 28 [4]
Natural convection		176	73	---	---	---	---

more »

Q_N [W] = Rated heat output
Q [W] = Heat output

[1] At room air temperature t_L = 20 °C.
[2] Add an additional power uptake if 3 W per valve drive type 146906.
[3] The sound pressure levels were calculated at 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.

Katherm QK 207s (narrow convector)

Services

Fan stage	at fan speed	Heat outputs [1]		Power consumption [2]	Air flow volume	Sound pressure level [3]	Sound power level
		at LPHW 75 / 65 °C	at LPWW 55 / 45 °C				
	[%]	Q_N [W]	Q [W]	P [W]	[m³/h]	[dB(A)]	[dB(A)]
Trench length 1800 mm							
Boost stage	100	1395	803	9	274	33	41
Design levels	80	1285	744	8	258	31	39
	60	1171	681	6	209	26	34
	40	1057	612	4	156	< 20 [4]	< 28 [4]
Minimum stage	20	935	538	4	130	< 20 [4]	< 28 [4]
Natural convection		208	86	---	---	---	---
Trench length 2000 mm							
Boost stage	100	1395	803	9	274	33	41
Design levels	80	1285	744	8	258	31	39
	60	1171	681	6	209	26	34
	40	1057	612	4	156	< 20 [4]	< 28 [4]
Minimum stage	20	935	538	4	130	< 20 [4]	< 28 [4]
Natural convection		208	86	---	---	---	---
Trench length 2200 mm							
Boost stage	100	1760	1014	15	320	34	42
Design levels	80	1621	939	13	301	32	40
	60	1477	860	10	244	27	35
	40	1333	772	7	182	< 20 [4]	< 28 [4]
Minimum stage	20	1179	679	6	152	< 20 [4]	< 28 [4]
Natural convection		262	108	---	---	---	---
Trench length 2400 mm							
Boost stage	100	1974	1137	16	365	34	42
Design levels	80	1819	1053	14	344	32	40
	60	1657	964	11	279	27	35
	40	1496	866	8	208	20	28
Minimum stage	20	1323	762	6	173	< 20 [4]	< 28 [4]
Natural convection		294	121	---	---	---	---

more »

Q_N [W] = Rated heat output
Q [W] = Heat output

[1] At room air temperature t_L = 20 °C.
[2] Add an additional power uptake if 3 W per valve drive type 146906.
[3] The sound pressure levels were calculated at 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.

Services

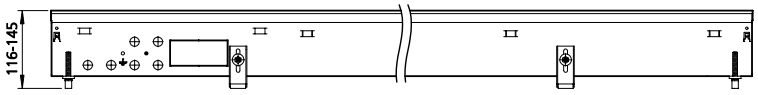
Fan stage	at fan speed	Heat outputs [1]		Power consumption [2]	Air flow volume	Sound pressure level [3]	Sound power level
		at LPHW 75 / 65 °C	at LPWW 55 / 45 °C				
	[%]	Q_N [W]	Q [W]	P [W]	[m³/h]	[dB(A)]	[dB(A)]
Trench length 2600 mm							
Boost stage	100	2226	1282	17	411	35	43
Design levels	80	2052	1188	15	387	33	41
	60	1869	1088	11	314	28	36
	40	1687	976	8	234	21	29
Minimum stage	20	1492	859	7	195	< 20 [4]	< 28 [4]
Natural convection		332	137	---	---	---	---
Trench length 2800 mm							
Boost stage	100	2441	1406	18	457	35	43
Design levels	80	2249	1302	15	430	33	41
	60	2049	1192	12	348	28	36
	40	1849	1071	8	260	21	29
Minimum stage	20	1635	942	7	217	< 20 [4]	< 28 [4]
Natural convection		363	150	---	---	---	---
Trench length 3000 mm							
Boost stage	100	2677	1542	19	502	36	44
Design levels	80	2467	1428	16	473	34	42
	60	2247	1308	13	383	29	37
	40	2028	1174	9	286	22	30
Minimum stage	20	1794	1033	7	238	< 20 [4]	< 28 [4]
Natural convection		399	165	---	---	---	---
Trench length 3200 mm							
Boost stage	100	2892	1666	20	548	36	44
Design levels	80	2664	1543	17	516	34	42
	60	2428	1413	13	418	29	37
	40	2191	1268	9	312	22	30
Minimum stage	20	1937	1116	8	260	< 20 [4]	< 28 [4]
Natural convection		431	178	---	---	---	---

Q_N [W] = Rated heat output
Q [W] = Heat output

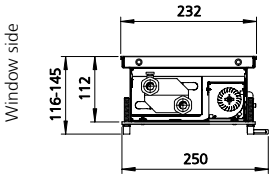
[1] At room air temperature t_L = 20 °C.
[2] Add an additional power uptake if 3 W per valve drive type 146906.
[3] The sound pressure levels were calculated at an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in 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.

Katherm QK 232

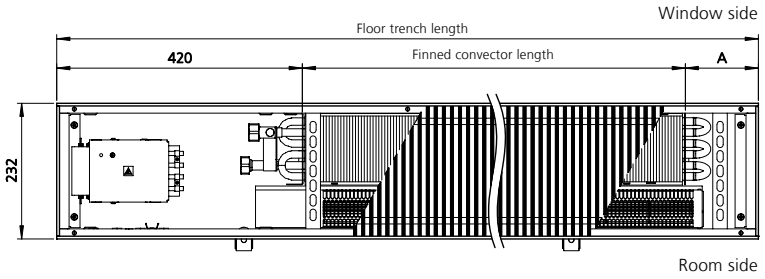
Technical Drawings (all dimensions in mm)



Front view



Cross-section
(example showing roll-up grille)



Top view (view without cover panel)

Trench length	A	Trench length	A
[mm]	[mm]	[mm]	[mm]
1000	160	**2200**	150
1200	125	**2400**	150
1400	115	**2600**	115
1600	90	**2800**	105
1800	80	**3000**	95
2000	280	**3200**	95

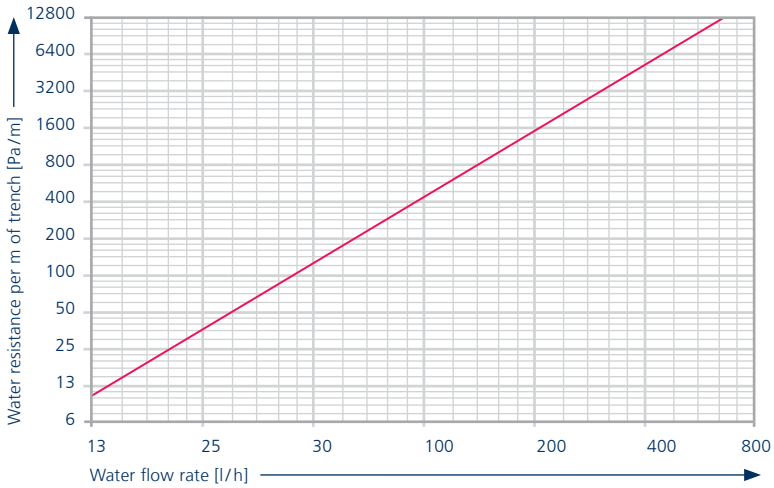
Specifications

Connections, female thread:
Eurokonus, same end,
connections on left

Make use of our online calculation programs to calculate your heat outputs and flow rates with a couple of clicks!

- **Kampmann.co.uk/ calculation_programs**

Water resistance: Heating curves



Services

Fan stage	at fan speed	Heat outputs [1]		Power consumption [2]	Air flow volume	Sound pressure level [3]	Sound power level
		at LPHW 75 / 65 °C	at LPWW 55 / 45 °C				
	[%]	Q_N [W]	Q [W]	P [W]	[m³/h]	[dB(A)]	[dB(A)]
Trench length 1000 mm							
Boost stage	100	954	553	6	91	28	36
Design levels	80	888	528	5	86	26	34
	60	792	465	4	70	21	29
	40	675	397	3	52	< 20 [4]	< 28 [4]
Minimum stage	20	529	314	3	43	< 20 [4]	< 28 [4]
Natural convection		106	50	---	---	---	---
Trench length 1200 mm							
Boost stage	100	1476	855	7	137	30	38
Design levels	80	1374	816	6	129	28	36
	60	1224	720	5	105	23	31
	40	1044	614	4	78	< 20 [4]	< 28 [4]
Minimum stage	20	818	486	3	65	< 20 [4]	< 28 [4]
Natural convection		164	78	---	---	---	---
Trench length 1400 mm							
Boost stage	100	1920	1112	7	183	31	39
Design levels	80	1787	1061	6	172	29	37
	60	1592	936	5	139	24	32
	40	1358	798	4	104	< 20 [4]	< 28 [4]
Minimum stage	20	1063	632	3	87	< 20 [4]	< 28 [4]
Natural convection		213	101	---	---	---	---
Trench length 1600 mm							
Boost stage	100	2442	1414	8	228	32	40
Design levels	80	2273	1350	7	215	30	38
	60	2025	1190	6	174	25	33
	40	1727	1015	4	130	< 20 [4]	< 28 [4]
Minimum stage	20	1352	803	3	108	< 20 [4]	< 28 [4]
Natural convection		271	129	---	---	---	---

more »

Q_N [W] = Rated heat output
Q [W] = Heat output

[1] At room air temperature t_L = 20 °C.
[2] Add an additional power uptake if 3 W per valve drive type 146906.
[3] The sound pressure levels were calculated at 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.

Katherm QK 232

Services

Fan stage	at fan speed	Heat outputs [1]		Power consumption [2]	Air flow volume	Sound pressure level [3]	Sound power level
		at LPHW 75 / 65 °C	at LPWW 55 / 45 °C				
	[%]	Q_N [W]	Q [W]	P [W]	[m³/h]	[dB(A)]	[dB(A)]
Trench length 1800 mm							
Boost stage	100	2886	1671	9	274	33	41
Design levels	80	2686	1595	8	258	31	39
	60	2393	1407	6	209	26	34
	40	2040	1200	4	156	< 20 [4]	< 28 [4]
Minimum stage	20	1598	949	4	130	< 20 [4]	< 28 [4]
Natural convection		321	152	---	---	---	---
Trench length 2000 mm							
Boost stage	100	2886	1671	9	274	33	41
Design levels	80	2686	1595	8	258	31	39
	60	2393	1407	6	209	26	34
	40	2040	1200	4	156	< 20 [4]	< 28 [4]
Minimum stage	20	1598	949	4	130	< 20 [4]	< 28 [4]
Natural convection		321	152	---	---	---	---
Trench length 2200 mm							
Boost stage	100	3640	2107	15	320	34	42
Design levels	80	3388	2012	13	301	32	40
	60	3019	1775	10	244	27	35
	40	2574	1513	7	182	< 20 [4]	< 28 [4]
Minimum stage	20	2016	1197	6	152	< 20 [4]	< 28 [4]
Natural convection		404	192	---	---	---	---
Trench length 2400 mm							
Boost stage	100	4084	2364	16	365	34	42
Design levels	80	3802	2258	14	344	32	40
	60	3387	1991	11	279	27	35
	40	2888	1698	8	208	20	28
Minimum stage	20	2262	1344	6	173	< 20 [4]	< 28 [4]
Natural convection		454	215	---	---	---	---

more »

Q_N [W] = Rated heat output
Q [W] = Heat output

[1] At room air temperature t_L = 20 °C.
[2] Add an additional power uptake if 3 W per valve drive type 146906.
[3] The sound pressure levels were calculated at 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.

Services

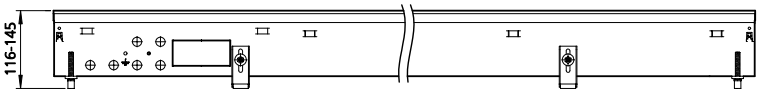
Fan stage	at fan speed	Heat outputs [1]		Power consumption [2]	Air flow volume	Sound pressure level [3]	Sound power level
		at LPHW 75 / 65 °C	at LPWW 55 / 45 °C				
	[%]	Q_N [W]	Q [W]	P [W]	[m³/h]	[dB(A)]	[dB(A)]
Trench length 2600 mm							
Boost stage	100	4606	2666	17	411	35	43
Design levels	80	4287	2546	15	387	33	41
	60	3820	2245	11	314	28	36
	40	3257	1915	8	234	21	29
Minimum stage	20	2551	1515	7	195	< 20 [4]	< 28 [4]
Natural convection		512	243	---	---	---	---
Trench length 2800 mm							
Boost stage	100	5050	2923	18	457	35	43
Design levels	80	4700	2791	15	430	33	41
	60	4188	2462	12	348	28	36
	40	3571	2099	8	260	21	29
Minimum stage	20	2797	1661	7	217	< 20 [4]	< 28 [4]
Natural convection		561	266	---	---	---	---
Trench length 3000 mm							
Boost stage	100	5538	3206	19	502	36	44
Design levels	80	5155	3061	16	473	34	42
	60	4593	2700	13	383	29	37
	40	3916	2302	9	286	22	30
Minimum stage	20	3067	1822	7	238	< 20 [4]	< 28 [4]
Natural convection		615	292	---	---	---	---
Trench length 3200 mm							
Boost stage	100	5982	3463	20	548	36	44
Design levels	80	5568	3307	17	516	34	42
	60	4961	2916	13	418	29	37
	40	4230	2487	9	312	22	30
Minimum stage	20	3313	1968	8	260	< 20 [4]	< 28 [4]
Natural convection		665	315	---	---	---	---

Q_N [W] = Rated heat output
Q [W] = Heat output

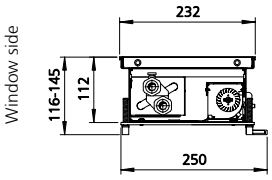
[1] At room air temperature t_L = 20 °C.
[2] Add an additional power uptake if 3 W per valve drive type 146906.
[3] The sound pressure levels were calculated at an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in 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.

Katherm QK 232s (narrow convector)

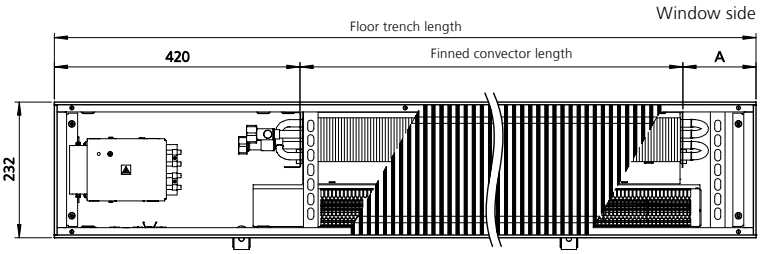
Technical Drawings (all dimensions in mm)



Front view



Cross-section
(example showing roll-up grille)



Top view (view without cover panel)

Trench length	A	Trench length	A
[mm]	[mm]	[mm]	[mm]
1000	160	**2200**	150
1200	125	**2400**	150
1400	115	**2600**	115
1600	90	**2800**	105
1800	80	**3000**	95
2000	280	**3200**	95

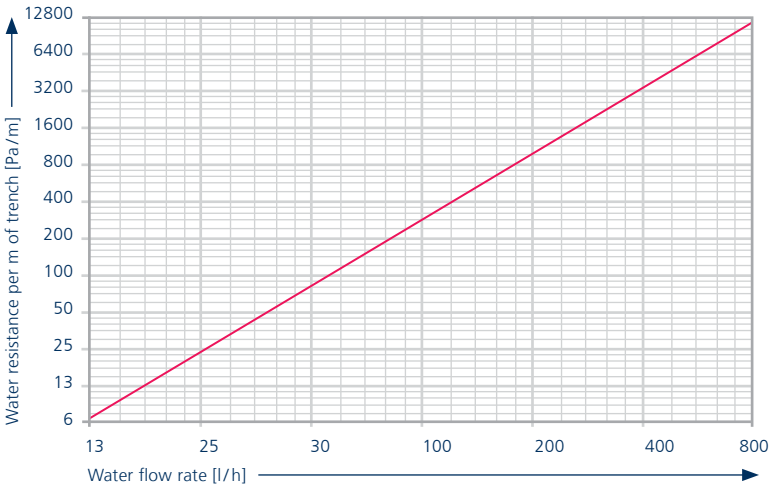
Specifications

Connections, female thread:
Eurokonus, same end,
connections on left

Make use of our online calculation programs to calculate your heat outputs and flow rates with a couple of clicks!

- **Kampmann.co.uk/ calculation_programs**

Water resistance: Heating curves



Services

Fan stage	at fan speed	Heat outputs [1]		Power consumption [2]	Air flow volume	Sound pressure level [3]	Sound power level
		at LPHW 75 / 65 °C	at LPWW 55 / 45 °C				
	[%]	Q_N [W]	Q [W]	P [W]	[m³/h]	[dB(A)]	[dB(A)]
Trench length 1000 mm							
Boost stage	100	758	448	6	91	28	36
Design levels	80	684	404	5	86	26	34
	60	609	358	4	70	21	29
	40	534	314	3	52	< 20[4]	< 28[4]
Minimum stage	20	456	267	3	43	< 20[4]	< 28[4]
Natural convection		89	36	---	---	---	---
Trench length 1200 mm							
Boost stage	100	1173	693	7	137	30	38
Design levels	80	1058	625	6	129	28	36
	60	942	554	5	105	23	31
	40	825	485	4	78	< 20[4]	< 28[4]
Minimum stage	20	706	413	3	65	< 20[4]	< 28[4]
Natural convection		138	55	---	---	---	---
Trench length 1400 mm							
Boost stage	100	1525	901	7	183	31	39
Design levels	80	1377	813	6	172	29	37
	60	1225	720	5	139	24	32
	40	1074	631	4	104	< 20[4]	< 28[4]
Minimum stage	20	918	537	3	87	< 20[4]	< 28[4]
Natural convection		179	72	---	---	---	---
Trench length 1600 mm							
Boost stage	100	1940	1146	8	228	32	40
Design levels	80	1751	1034	7	215	30	38
	60	1558	916	6	174	25	33
	40	1365	803	4	130	< 20[4]	< 28[4]
Minimum stage	20	1167	683	3	108	< 20[4]	< 28[4]
Natural convection		228	92	---	---	---	---

more »

Q_N [W] = Rated heat output
Q [W] = Heat output

[1] At room air temperature t_L = 20 °C.
[2] Add an additional power uptake if 3 W per valve drive type 146906.
[3] The sound pressure levels were calculated at 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.

Katherm QK 232s (narrow convector)

Services

Fan stage	at fan speed	Heat outputs [1]		Power consumption [2]	Air flow volume	Sound pressure level [3]	Sound power level
		at LPHW 75 / 65 °C	at LPWW 55 / 45 °C				
	[%]	Q_N [W]	Q [W]	P [W]	[m³/h]	[dB(A)]	[dB(A)]
Trench length 1800 mm							
Boost stage	100	2292	1354	9	274	33	41
Design levels	80	2069	1222	8	258	31	39
	60	1841	1082	6	209	26	34
	40	1614	949	4	156	< 20 [4]	< 28 [4]
Minimum stage	20	1379	807	4	130	< 20 [4]	< 28 [4]
Natural convection		269	108	---	---	---	---
Trench length 2000 mm							
Boost stage	100	2292	1354	9	274	33	41
Design levels	80	2069	1222	8	258	31	39
	60	1841	1082	6	209	26	34
	40	1614	949	4	156	< 20 [4]	< 28 [4]
Minimum stage	20	1379	807	4	130	< 20 [4]	< 28 [4]
Natural convection		269	108	---	---	---	---
Trench length 2200 mm							
Boost stage	100	2892	1709	15	320	34	42
Design levels	80	2610	1542	13	301	32	40
	60	2323	1366	10	244	27	35
	40	2036	1197	7	182	< 20 [4]	< 28 [4]
Minimum stage	20	1740	1018	6	152	< 20 [4]	< 28 [4]
Natural convection		340	137	---	---	---	---
Trench length 2400 mm							
Boost stage	100	3244	1917	16	365	34	42
Design levels	80	2928	1730	14	344	32	40
	60	2606	1532	11	279	27	35
	40	2284	1343	8	208	20	28
Minimum stage	20	1952	1142	6	173	< 20 [4]	< 28 [4]
Natural convection		381	154	---	---	---	---

more »

Q_N [W] = Rated heat output
Q [W] = Heat output

[1] At room air temperature t_L = 20 °C.
[2] Add an additional power uptake if 3 W per valve drive type 146906.
[3] The sound pressure levels were calculated at 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.

Services

Fan stage	at fan speed	Heat outputs [1]		Power consumption [2]	Air flow volume	Sound pressure level [3]	Sound power level
		at LPHW 75 / 65 °C	at LPWW 55 / 45 °C				
	[%]	Q_N [W]	Q [W]	P [W]	[m³/h]	[dB(A)]	[dB(A)]
Trench length 2600 mm							
Boost stage	100	3659	2162	17	411	35	43
Design levels	80	3302	1951	15	387	33	41
	60	2939	1728	11	314	28	36
	40	2576	1514	8	234	21	29
Minimum stage	20	2202	1288	7	195	< 20 [4]	< 28 [4]
Natural convection		430	173	---	---	---	---
Trench length 2800 mm							
Boost stage	100	4011	2370	18	457	35	43
Design levels	80	3620	2139	15	430	33	41
	60	3222	1894	12	348	28	36
	40	2824	1660	8	260	21	29
Minimum stage	20	2414	1412	7	217	< 20 [4]	< 28 [4]
Natural convection		471	190	---	---	---	---
Trench length 3000 mm							
Boost stage	100	4399	2599	19	502	36	44
Design levels	80	3971	2346	16	473	34	42
	60	3534	2077	13	383	29	37
	40	3097	1821	9	286	22	30
Minimum stage	20	2647	1548	7	238	< 20 [4]	< 28 [4]
Natural convection		517	208	---	---	---	---
Trench length 3200 mm							
Boost stage	100	4752	2808	20	548	36	44
Design levels	80	4289	2534	17	516	34	42
	60	3817	2244	13	418	29	37
	40	3345	1967	9	312	22	30
Minimum stage	20	2859	1672	8	260	< 20 [4]	< 28 [4]
Natural convection		558	225	---	---	---	---

Q_N [W] = Rated heat output
Q [W] = Heat output

[1] At room air temperature t_L = 20 °C.
[2] Add an additional power uptake if 3 W per valve drive type 146906.
[3] The sound pressure levels were calculated at 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.

03 Design Information

Information on Planning and Design

Katherm QK are suitable for use in all kinds of buildings demanding heating due to their internal loads.

High heating loads in the rooms can be met with ultra-quiet EC fans. Katherm QK are also used to efficiently combat condensation on external glazing. They are generally position directly in front of the external façade without a large gap.

Katherm QK can provide cost-effective and efficient heating, particularly in front of large areas of glazing.

Air outlet

All Katherm QK are positioned with the convector on the window side. The warm air rising up the exterior façade flows draught-free into the room, guaranteeing optimum cold air screening.

Acoustics

The respective sound power levels of Katherm QK are indicated in the tables (see „Technical Data“).
The sound pressure levels were calculated with assumed room insulation of 8 dB(A).

This corresponds to a distance of 2 m, a room volume of 100m³ and a reverberation time of 0.5 s (in accordance with VDI 2081).

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

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

Heat outputs

The heat outputs were tested in accordance with EN 16430. We would recommend our online calculation programs to convert to other operating conditions.
Kampmann.co.uk/calculation_programs

Make use of our online calculation programs to calculate your heat outputs and flow rates with a couple of clicks!

- **Kampmann.co.uk/ calculation_programs**

04 Controls

KaControl - the all-inclusive-solution

Kampmann Katherm QK units complete with KaControl operating units are supplied factory-fitted with all electrical parts ready for connection.

A high-performance parameterised microprocessor is designed to carry out all necessary functions. each Katherm QK unit is equipped with its own "intelligence" and can be operated in groups via Kampmann-T-LAN or CANbus networks.

Building automation

Katherm QK with KaControl can be equipped with plug-in communication interfaces for linking into higher-order control systems: Therefore, each basic unit can be linked into a technical building network. Available interfaces: BACnet, Modbus, KNX and LON. Alternatively, the valves and fans can be controlled via a 0-10 V signal.

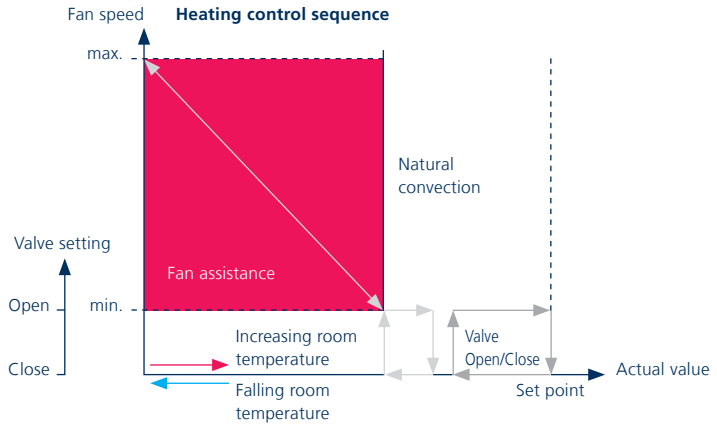
Electrical Connection

All electrical cables in the KaControl unit are laid in the floor trench. In standard cases, this is merely a mains cable and bus/communication cables. As a result, the installation costs can be kept to a minimum. Each Katherm QK unit is fitted with an electrical fuse.

Commissioning

Each Katherm QK with KaControl is supplied factory-fitted with a basic program and wired ready for operating with factory presettings for all control parameters. If required, the parameters can be accessed via the operating unit (KaController) on site and changed as needed.

Temperature control with smooth fan assistance



When using a communication card, it is also possible to set comfort parameters on the unit via IT networks or even directly via a Notebook. Groups of up to six Katherm QK units can be commissioned with automatic addressing.

Control functions of KaControl for Katherm QK

The parameterisable KaControl offers a wide range of functions:

- 5-speed fan control and infinitely variable automatic function
- Automatic adjustment of the fan speed depending on the room temperature
- Valve control for 2-pipe applications (heating) for thermoelectric actuators Open/Close 24 V DC
- Integrated timer program for programming day and week switching functions in the KaController unit

Automatic functions

The Katherm QK unit is initially operated with natural convection depending on the room temperature recorded. The infinitely adjustable energy-saving EC fan is used for additional backup as required.

KaController operating unit

The "face" of the KaControl building automation system: The KaController operating unit.

The KaController provides the ultimate in operating convenience with its large display and one-touch operation. With the basic principle, "as little as possible, as much as required", even untrained users can intuitively get to grips with the control options.

The basic functions for comfortable interior temperatures are set in a user-friendly way using the KaController.

Product features

- High-quality designed wall-mounted room operating units
- Available with or without function buttons on the side
- Plastic housing, colour similar to RAL 9010
- Communication interface to Kampmann T-LAN bus system
- Large display with automatic backlight
- Integral room temperature sensor
- Press-button dial with continuous/dial mode
- Integral weekly timer program
- Password-protected parameter level

Electromechanical control: Room thermostat with speed controller

The required room temperature is set on the room thermostat. If this falls below the set value, the cross-flow fan starts up at the set speed and the thermoelectric actuator valve opens the water-side valve.

If the speed controller is switched to zero (Off), only the water-side valve opens (natural convection operation).

1. Dial for temperature setting
2. Speed controller

Product features

- Flat surface-mounted housing
- Colour: white
- Thermal feedback
- For 0-100% parallel control of up to ten Katherm QK
- Setting of room temperature and pre-setting of fan speed using rotary dials
- Dimensions W x H x D: 78 x 83 x 27 mm

KaControl Touch SEL

KaControl Touch SEL offers users the option of calling up all system states and modifying system parameters via an intuitive user interface.

The touch-screen operation consists of switchable parameter windows, which show all settings and options at-a-glance and are specifically designed for manual operation on the screen.

Users can also operate the operating pages through Internet Explorer via an Ethernet cable in addition to standard functions, like calling up temperatures and specifying setpoints.

Product features

- Display size: 7" (diagonal)
- Supply voltage: 24 V DC
- Protection class: IP65 (front panel)
- Interface (protocol): Modbus RTU
- Dimensions W x H x D: 187 x 147 x 49 mm
- Max. number of zones: 24 zones
  (= 24 mode cards)

KaControl SEL panel

For the centralised control and monitoring of up to 24 temperature zones, unit groups or rooms.

Product features

- 3 timer programs; for 24 zones
- Summer compensation
- Room temperature target /actual values
- Central heating/cooling switch-over in 2-pipe systems by external switching contact
- Centralised temperature target value specification by an external signal 0–10V
- Demand for heating via digital output
- Demand for cooling via digital output
- Collective fault in Kampmann system via digital output
- Fault detection in chiller or heat pump
- Heating/cooling changeover
- Heat generator enabled
- Chiller or heating/cooling heat pump enabled
- Fault monitoring in single units (only if all units have Modbus cards, max. 24)
- Switch-over of individual control zones:
  - On/Off or Eco/Day
  - On/Off or Eco/Day for total system via external contact
- BACnet gateway optional

Cabling

Single-circuit Control – System Configuration

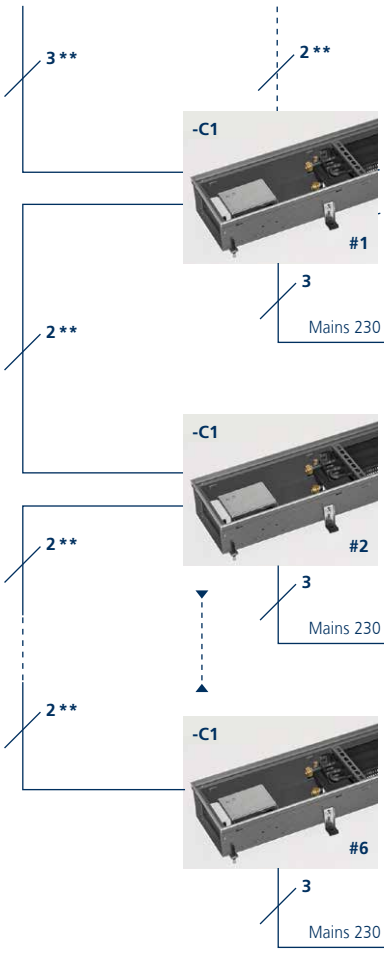
KaController
Example type 3210001
Alternative type 3210002

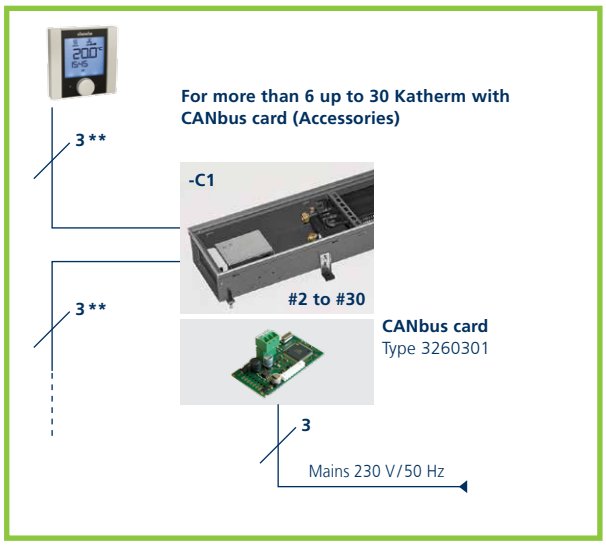
Optional: Room temperature sensor
Type 3250110

Multifunctional inputs
Options:

Digital input 1
e.g. Remote on/off

Digital input 2
e.g. window contact





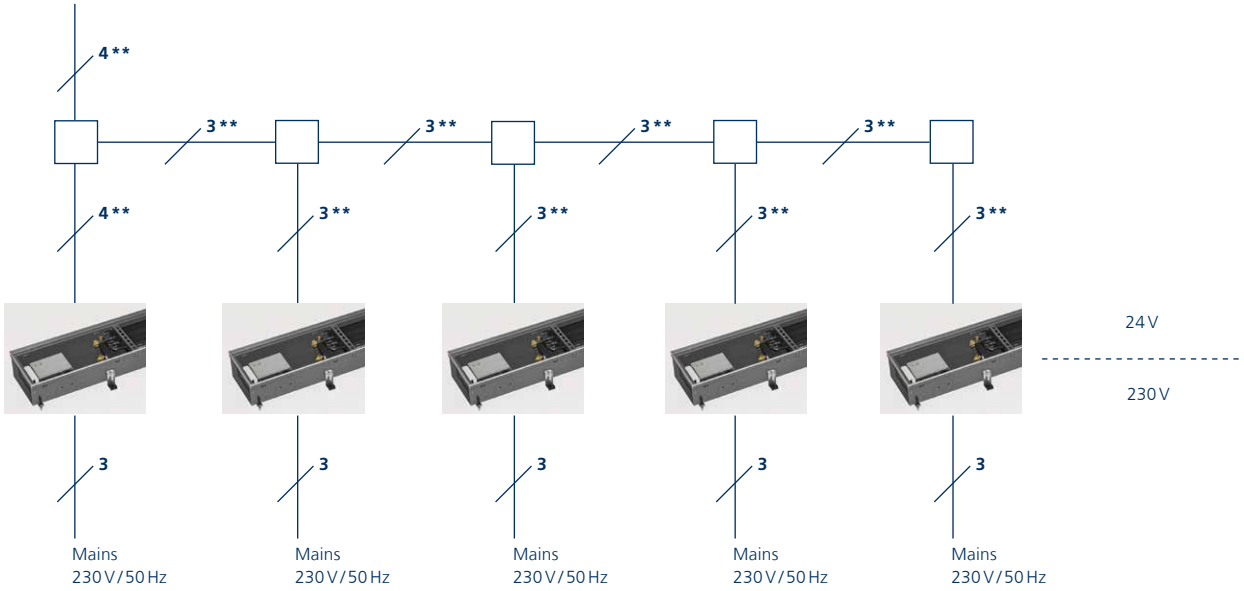
Cable length
max. 30 m

Cable length
max. 30 m
BUS cabling,
max. 300 m with
CAN bus card

** Route cables in CAT5 (AWG 23) (or similar).
Caution: All BUS connections must be laid in a line – star-shaped cabling is not allowed!

Wiring diagram – electromechanical control

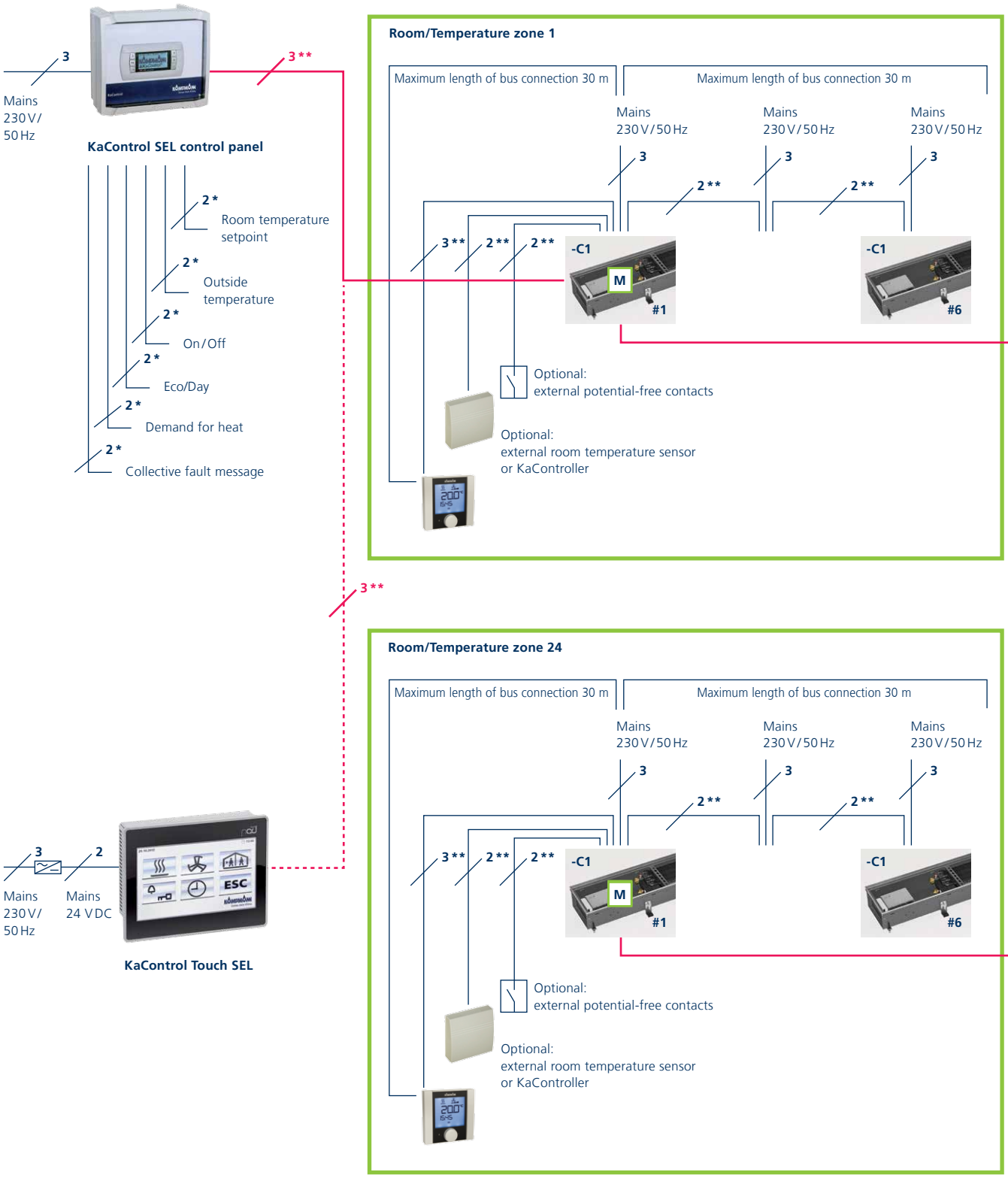
Room thermostat



Maximum number of Katherm QK that can be connected per room thermostat: 10 no.

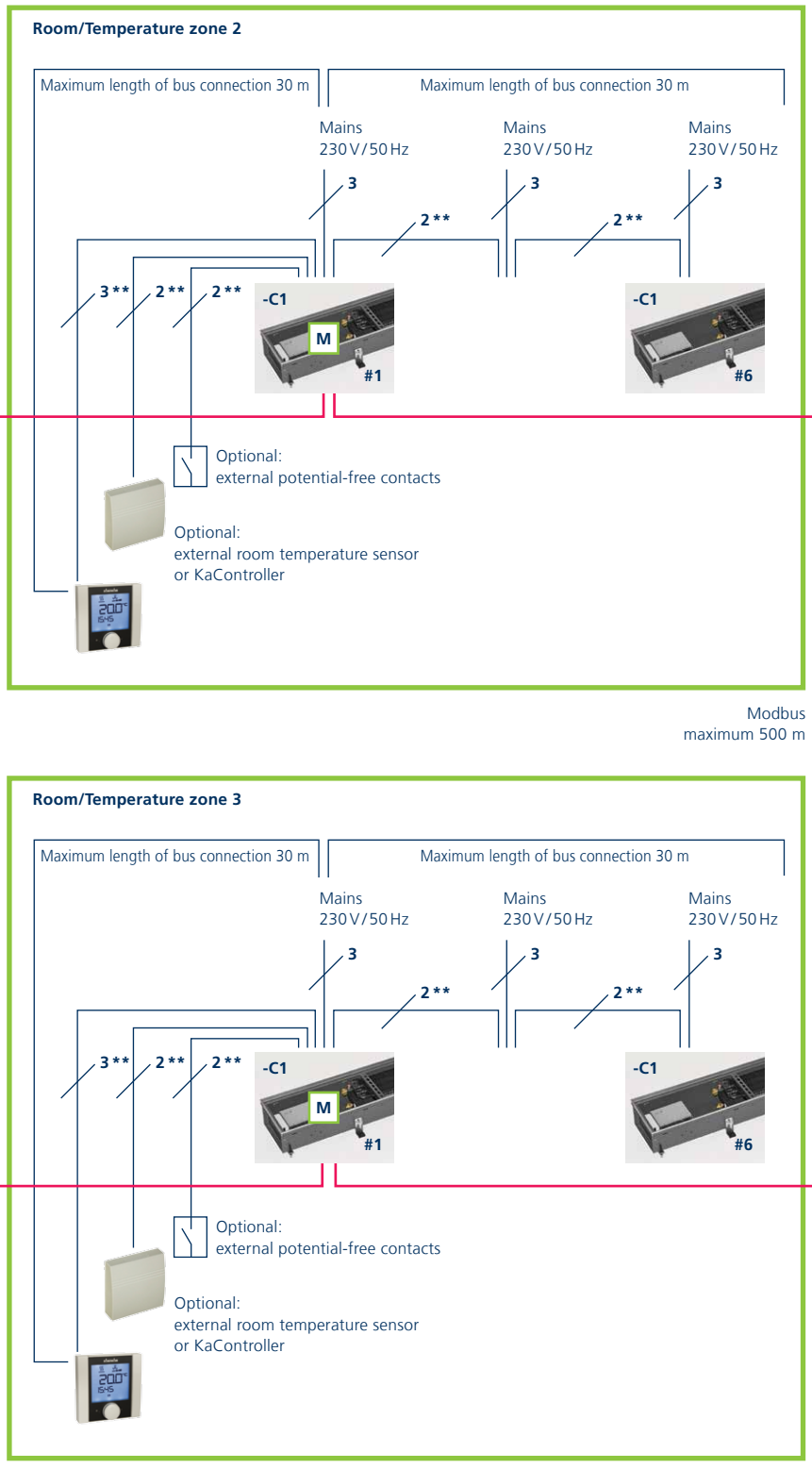
** Shielded cable. Route cables in IY (St) Y, 0.8 mm (or similar).
☐ Junction boxes (Use external junction boxes in the event of controlling multiple Katherm QK in a group).

KaControl – system controller



M Modbus card

The number of wires including fuse is given for each individual control unit.



Unit groups/Fault monitoring

- A maximum of 24 units with Modbus communication can be networked.
- Five other units can be operated in parallel per Modbus unit (same temperature zone).
- Fault monitoring is possible with units with Modbus communication.

Decentralised functions

- Room temperature measurement via room temperature sensor or KaController
- KaControl (optional)
- Valve actuation via KaController
- Room temperature setpoint

Room temperature specification

The room temperature is specified depending on the timer program programmed. The user can change it on site on the KaController if required.
The changes made by the user during the day are overwritten at the next centralised timer command, for example when switching from Day > ECO (night mode).

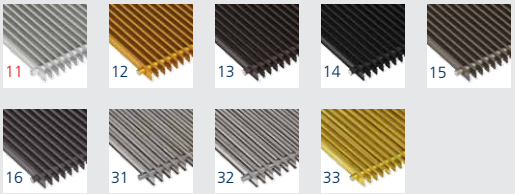
* Lay shielded cables (e.g. IY(ST)Y, 0.8 mm), separately from high-voltage cables.
** Lay shielded, paired cables, e.g. CAT5 (AWG23) of at least the same value, separately from high-voltage cables.

05 Ordering Information

Katherm QK

Model	Trench width	Control option	Grille finish	Art. no.
	[mm]			
Trench length: 1000 mm – 3200 mm				
QK 182	182	electro-mechanical	Roll-up grille	14219111**11**1500
			Linear grille	14219113**11**1500
		KaControl	Roll-up grille	14219111**11**15C1
			Linear grille	14219113**11**15C1
QK 207s	207	electro-mechanical	Roll-up grille	14221111**11**1500
			Linear grille	14221113**11**1500
		KaControl	Roll-up grille	14221111**11**15C1
			Linear grille	14221113**11**15C1
QK 207		electro-mechanical	Roll-up grille	14222111**11**1500
			Linear grille	14222113**11**1500
		KaControl	Roll-up grille	14222111**11**15C1
			Linear grille	14222113**11**15C1
QK 232s	232	electro-mechanical	Roll-up grille	14224111**11**1500
			Linear grille	14224113**11**1500
		KaControl	Roll-up grille	14224111**11**15C1
			Linear grille	14224113**11**15C1
QK 232		electro-mechanical	Roll-up grille	14225111**11**1500
			Linear grille	14225113**11**1500
		KaControl	Roll-up grille	14225111**11**15C1
			Linear grille	14225113**11**15C1

Trench heaters are supplied as standard with a natural anodised aluminium grille. This can be replaced by one of the following grilles at a surcharge. Please change the two red digits to the left of the red line in the article number to select an alternative grille.



Article key for grille finish (Example of Art. no.)

14219111**11**1500 – Aluminium, natural anodised (standard)
12 – Aluminium, brass anodised
13 – Aluminium, bronze anodised
14 – Aluminium, black anodised
15 – Aluminium, bronze finish
16 – Aluminium, painted DB 703
31 – Stainless steel, natural
32 – Stainless steel, polished
33 – Brass, natural CuZn 44

The available convector lengths are in 200 mm increments (1000 mm to 3200 mm). Please change the two red digits to the right of the red line in the article number to select the required convector length.

Article key for grille finish (Example of Art. no.)

1421911111**15**00 – Trench length 1000 mm
19 – Trench length 1200 mm
23 – Trench length 1400 mm
27 – Trench length 1600 mm
31 – Trench length 1800 mm
35 – Trench length 2000 mm
39 – Trench length 2200 mm
43 – Trench length 2400 mm
47 – Trench length 2600 mm
51 – Trench length 2800 mm
55 – Trench length 3000 mm
59 – Trench length 3200 mm

Accessories

Figure	Article	Properties	Suitable for	Art. no.
	KaControl Accessories			
	**KaController operating unit** with one-touch operation	Operating unit, wall-mounted, in high-grade design, plastic housing, colour similar to RAL 9010, large LCD multifunctional display, integrated room temperature sensor, communication interface to Kampmann T-LAN bus system, automatically switching LED backlight, press/turn dial with click stop function, individually adjustable basic display, integrated day, night and week program, password-protected parameter level for C1 control option	all models	**196003210001**
	**KaController operating unit** with function buttons on the side	for easy access to fan settings, operating modes, economy program, clock and timer programming, otherwise as per type 196003210001	all models	**196003210002**
	**Room temperature sensor**	for wall mounting, IP30 surface-mounted, colour white RAL 9010, alternative to the temperature sensor in the KaController	all models	**196003250110**
	**KaControl Touch SEL**	Touch panel for overall building management of up to 24 rooms or temperature zones. Housing for mounting in the font panel. One serial RS485 card, type. no. 196003260101, is required per room/zone	all models	**196003210311**
	**KaControl SEL panel without BACnet**	KaControl electronics housed in a surface-mounted wall housing, wired ready-for-use, including KaControl operating unit for the central control of Kampmann products via a serial bus communication (Modbus); for integration of a maximum of 24 units (Modbus subscribers) (optionally with a maximum of 6 BACnet objects in a BACnet/IP network)	all models	**196003232122**
	KaControl SEL panel with BACnet			**196003232123**

more »

Figure	Article	Properties	Suitable for	Art. no.
	KaControl Accessories			
	**Clip-on pipe sensor**	for detecting the temperature of the medium, including strap, 3 m cable, to protect the unit from frost	all models	**196003250115**
	**Serial CANbus card**	Serial CANbus card for increasing the number of units in a single-circuit system to a maximum of 30 units, one required per Katherm QK unit	all models	**196003260301**
	**Serial Modbus card**	For connection to BMS and automation units	all models	**196003260101**
	**Serial Konnex card**	for connection to KNX-/EIB networks	all models	**196003260701**
	**Serial LON FTT10A card**	for connection to LON FTT10A networks	all models	**196003260501**
	Electromechanical Control Accessories			
	**Room thermostat with speed controller**	In a flat surface-mounted housing, white, with thermal feedback, for the infinitely adjustable parallel control of up to 10 Katherm QK, room temperature and fan speed are pre-set using the rotary dial.	all models	**194000342924**
	Valves			
	**Valve body** straight, connection ½"	A low-noise air flow-optimised design with stainless steel spindle and double O-ring seal, to fit Katherm QK with actuator type 194000146906, max. operating temperature 120°C, max. operating pressure 10 bar	all models	**194000146909**
	Valve body straight, connection ½", pre-settable		all models	**194000346909**

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Figure	Article	Properties	Suitable for	Art. no.
	Return valves			
	**Return shut-off valve** straight, connection ½"	Brass, nickel-plated housing with O-ring seal, max. operating temperature 120°C, max. operating pressure 10 bar	all models	**194000145952**
	**Adjustment key**	pre-settable	Valve bodies, art. no. 194000346909	**194000346915**
	Valve actuators			
	**Thermoelectric actuator, 24 V**	Power uptake approx. 3 W, Connecting cable length approx. 1,900 mm Overall height 69 mm, diameter 42 mm, Connection thread 30 x1.5 mm	All valve bodies	**194000146906**
	Other accessories			
	**Installation cover**	made of wood to provide protection during construction, factory-fitted, grilles are supplied separately	QK 182	**194000100918**
			QK 207, 207s	**194000100920**
			QK 232, 232s	**194000100923**

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