

1.10 High capacity convectors

The concealed heat source for that warm, comfortable feeling

Models · Applications



Wall-mounted convector, casing by others

Encased Convectors

When warmth and interior design come together

The demand for effective but invisible room heating has been met by the Kampmann convector in its many different forms.

Convectors are ideal for concealed installation because the panelling forms a vital component of the "chimney effect". Radiators can often be found in all kinds of applications which have been hidden at great expense behind some form of panelling in order to conceal them as part of the interior design.

The result is a considerable decrease in output because these radiators are then unable to radiate heat as they are supposed to and are reduced to providing a very limited amount of heat by convection. By contrast, the convector produces its maximum heat output when it is correctly concealed and installed.

Low temperature operation

Convectors are suitable for operation with lower flow and return temperatures.

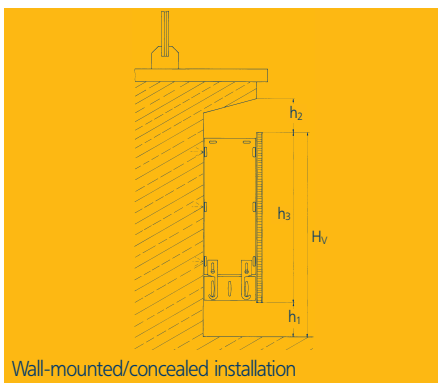
The exponent of the convector depends on the height of the "chimney". It decreases as the height of the "chimney" increases. The exponent cannot therefore be attributed to the convector itself but to particular way in which it has been installed.

If, at the design stage, the height of the actual "chimney" and the resulting exponents are taken into account, there is no reason why convectors should not be used with lower flow and return temperatures (e.g. LPHW 55/45°C).

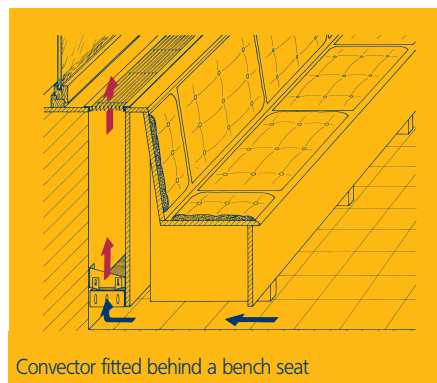
In the home or in commercial buildings, the casings can be fabricated to match the interior design or alternatively the convectors can be integrated within shelving, cabinets and benches.

Technical data

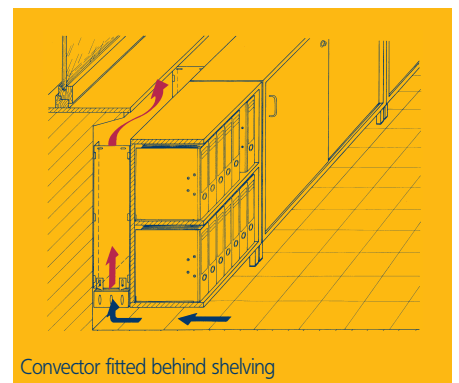
Convector width [mm]	Convector height [mm]	Convector length [mm]	Heat output [W] 75/65 °C, t _r 20 °C H _v 600 mm
50 – 300	70 und 150	500 – 5000	202 – 17332



Wall-mounted/concealed installation



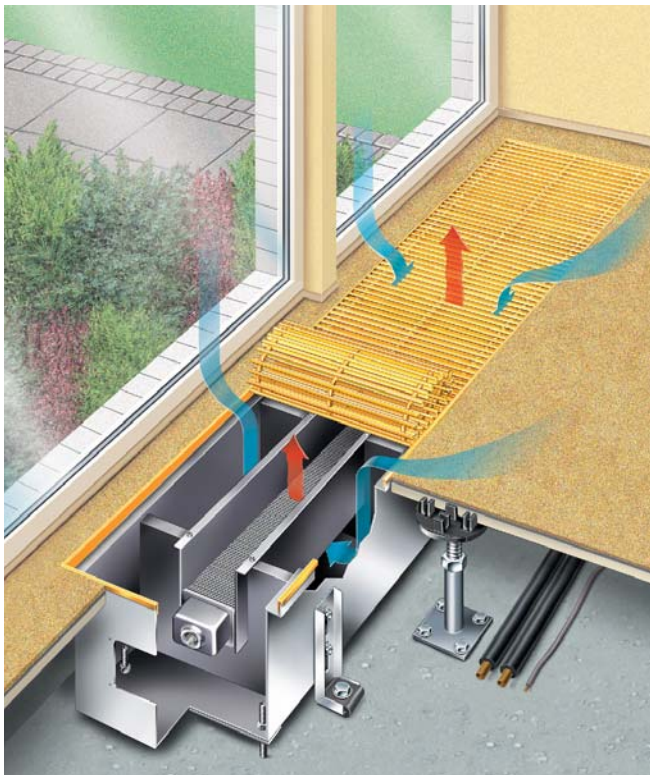
Convector fitted behind a bench seat



Convector fitted behind shelving

Galvanized steel convectors installed in underfloor trenches

Tailor-made designs · Ready-to-install



Kampmann convector, built into a steel trench, with roll-up grille

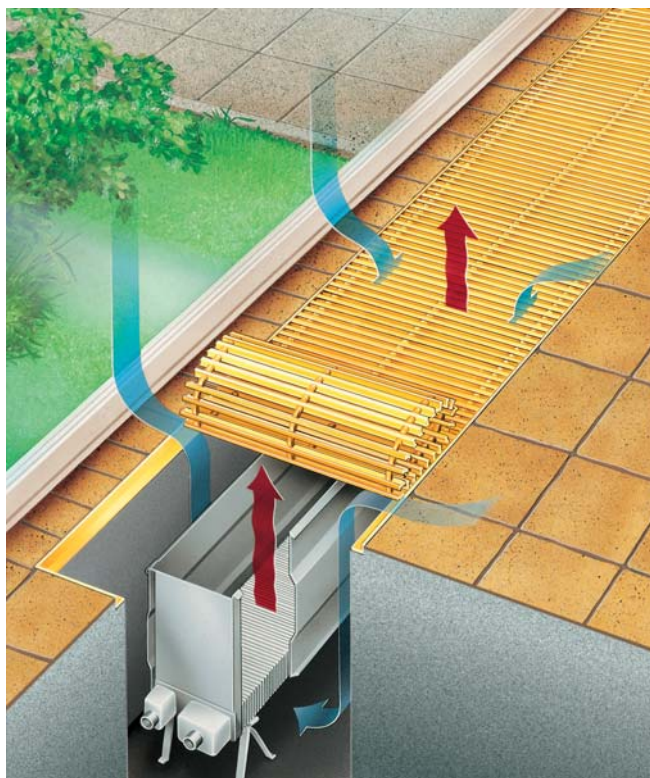
Effective heating can be achieved using Kampmann convectors installed within a variety of different underfloor trenches.

As its name suggests, a convector transfers heat principally by convection i.e. the heat is transferred to the surrounding moving air. The heated air is lighter than the colder ambient air and rises above the convector.

This upward stream of warm air can be further enhanced by forming a trench above the convector. A chimney of this type above the convector serves to "pull" the cold air through the convector.

Ideal room heating

- Pipe work and cabling can be contained within the ducting.
- Wide variety of grille and frame finishes.
- Inexpensive.
- Installation within concrete trench or alternatively with a manufactured metal trench.



Kampmann convector, built into a concrete trench, with S-brackets and guidewall, with roll-up grille



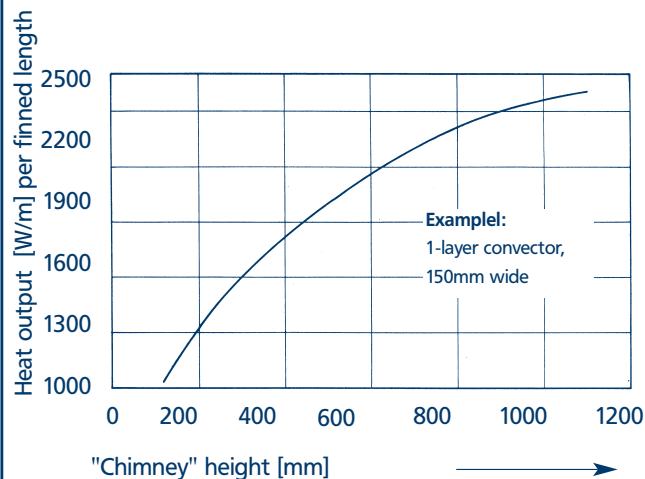
Kampmann deep trench heating with cover plates and noise insulation cassettes across partition walls

1.10 Convectors

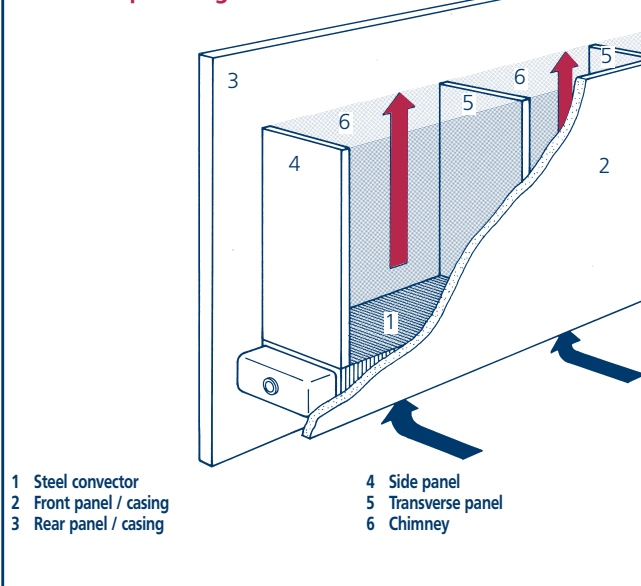
Versatile, concealed heating · Galvanized steel

Operation

Diagram 1:
"Chimney" height - Heat output



Separating warm air and cold air
Transverse panelling



As its name suggests, a convector transfers heat almost exclusively by convection i.e. by transferring heat into the surrounding moving air. The heated air is lighter than the colder surrounding air and thus rises above the convector.

Forming a "chimney" above the convector enhances this upward draught. Sealing off either side of the convector produces an "upward draught" drawing in cold air underneath the convector, rather like a chimney.

The height of the chimney has a direct effect on the volume of air flowing through the convector and consequently also on the heat output.

The above diagram illustrates the correlation between chimney height and heat output.

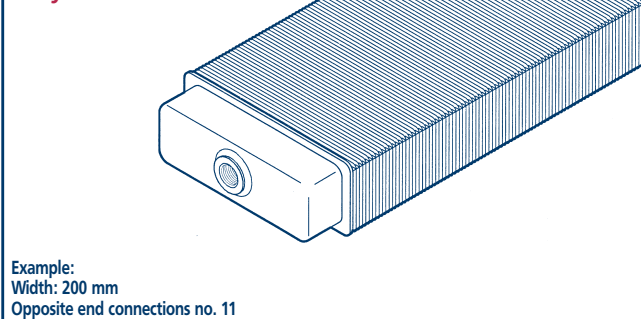
Exact heat outputs for different convector sizes and types of installation are shown in the heat output tables in the technical catalogue.

Large air gaps between the cold and warm air can cause a drop in output due to the ingress of "secondary air". To prevent this, the chimney should be boarded off into separate sections along the length of the convector.

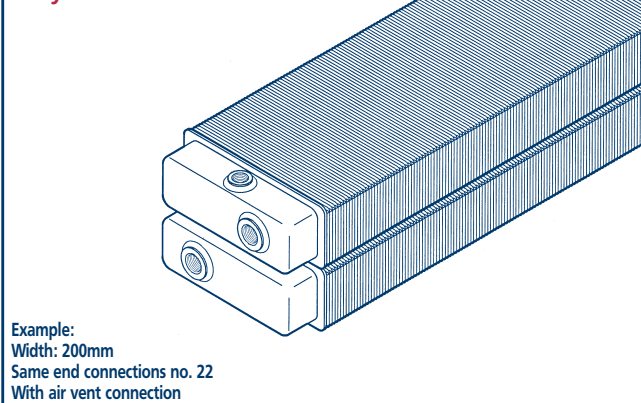
These transverse breaks prevent the up-draught from contracting and ensure that there is an even airflow over the entire length of the convector.

Optimum heat outputs can be achieved by using Kampmann convector brackets and by following the instructions regarding their number and use.

1-layer convector



2-layer convector



The Construction

Convectors accommodated within a Kampmann-made steel trench

The Kampmann deep trench system comprises a sendzimir-galvanized, self-supporting, steel floor trench, painted graphite-grey within, with internal brackets positioned every 400 - 600 mm along the trench to provide further rigidity. The convector sits on internal brackets, adjacent to which there are rigid guide walls. Adjustable feet are provided for standing or suspending the trench within the floor. (Internal height adjustments are also available).

The trench is designed with an angle to accommodate the roll-up grille, either with or without frame profile.

Convectors accommodated within a concrete trench

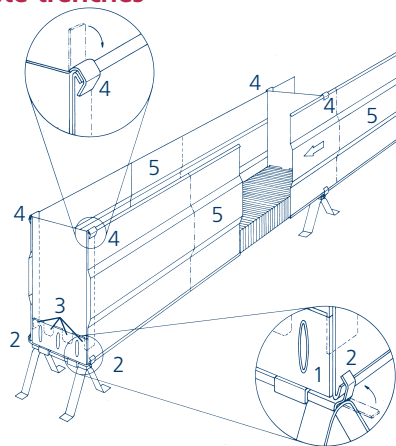
Kampmann convectors can of course also be installed within concrete trenches without the need for a steel trench. S-type brackets and guide walls, specially developed for this purpose, form a "chimney" above the convector and mean that fixing is very straightforward.

Models

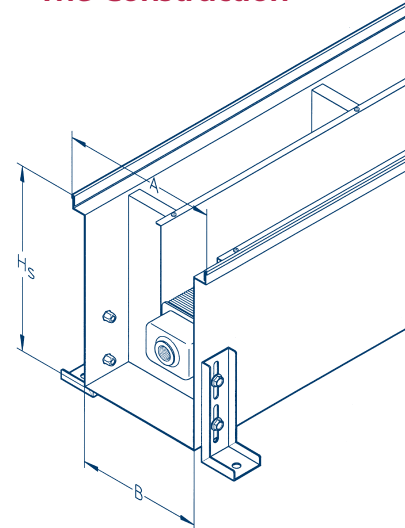
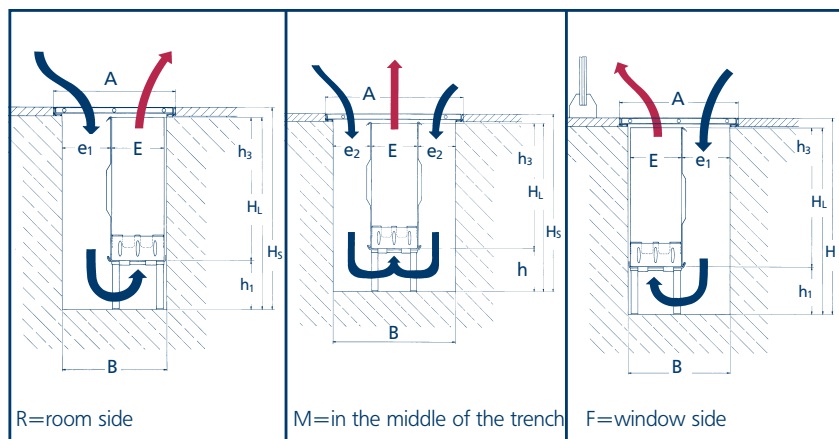
- Convector widths from 100 mm to 300 mm.
- Lengths from 500 to 5000 mm.
- Single or double layer convector.
- Wide range of components for use within a concrete trench.
- Connections can be same end, opposite end or non-standard.
- Non-standard sizes and designs are also possible.

Installation accessories for concrete trenches

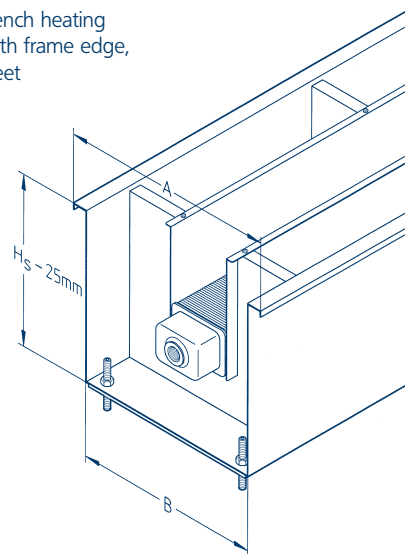
- 1 Insulation
- 2 S-bracket tabs
- 3 Guide wall bracket tongues
- 4 Guide wall bracket tabs
- 5 Guide walls



Positioning of the convector



Kampmann deep trench heating with one air inlet, with frame edge, height adjustment feet



Kampmann deep trench heating with two air inlets, without frame edge, internal height adjustments

Dimensions

Convector width [mm]	Convector height [mm]	Convector length [mm]
100	70 and 150	500-5000
150		
200		
250		
300		

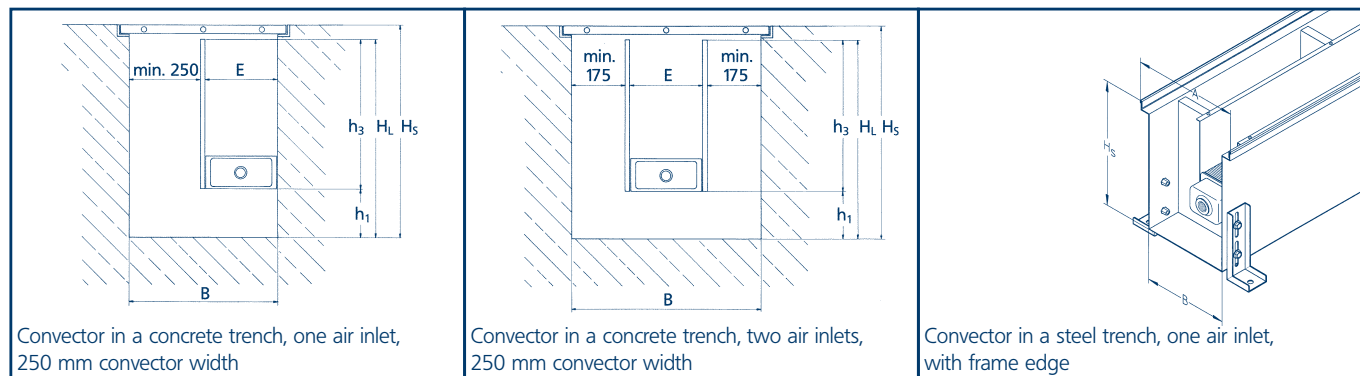
H_s = Trench height
 H_L = Guide wall height from base of trench
 h_1 = Air inlet height
 h_3 = Air "rising" duct height above convector
 E = Convector width
 e_1 = "Single" air inlet
 e_2 = "Double" air inlet
 B = Trench width
 A = Overall frame width
 $= B + 50$ mm

1.40 Deep trench heating

Tailor-made design · Made-to-order · Ready-to-install

Technical data

Heat outputs



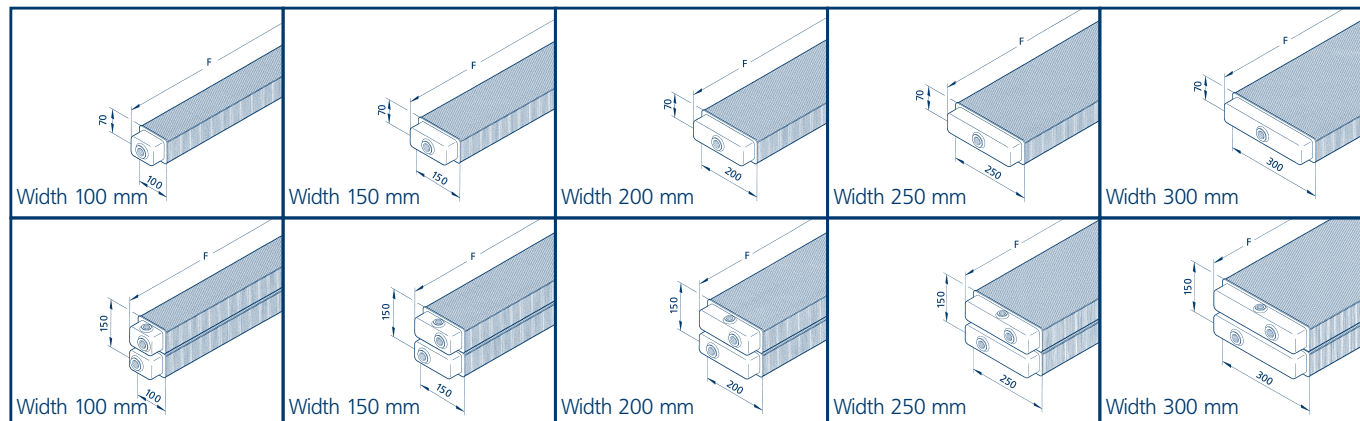
Convector width		E [mm]	100			150			200			250			300		
Convector position			one air inlet		two air inlets	one air inlet		two air inlets	one air inlet		two air inlets	one air inlet		two air inlets	one air inlet		two air inlets
Steel trench width**		B [mm]	205		305	305		405	405		505	505		605	605		705
Minimum concrete trench width**		B [mm]	min. 200		min. 300	min. 300		min. 400	min. 400		min. 500	min. 500		min. 600	min. 600		min. 700
Trench height H _s [mm]	Convector	Heat output [W/m ¹] at t _r = +20 °C *															
		90/70 °C	82/71 °C	75/65 °C	90/70 °C	82/71 °C	75/65 °C	90/70 °C	82/71 °C	75/65 °C	90/70 °C	82/71 °C	75/65 °C	90/70 °C	82/71 °C	75/65 °C	
200	1-layer	438	400	332	641	583	482	-	-	-	-	-	-	-	-	-	
	2-layer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
250	1-layer	576	528	440	848	777	647	1057	969	807	-	-	-	-	-	-	
	2-layer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
300	1-layer	671	610	512	972	888	742	1217	1113	929	1435	1316	1104	-	-	-	
	2-layer	758	690	574	1104	1005	836	-	-	-	-	-	-	-	-	-	
350	1-layer	740	678	569	1093	1002	841	1353	1244	1041	1574	1449	1220	1701	1571	1329	
	2-layer	819	751	625	1199	1099	915	1508	1383	1151	1847	1688	1410	-	-	-	
400	1-layer	814	750	631	1064	1064	895	1448	1328	1114	1682	1555	1312	1880	1733	1469	
	2-layer	899	823	686	1290	1182	985	1645	1507	1256	1992	1829	1532	2384	2182	1834	
500	1-layer	948	876	741	1324	1216	1027	1647	1515	1277	1930	1779	1508	2184	2019	1720	
	2-layer	1052	966	809	1501	1372	1146	1933	1775	1487	2343	2146	1802	2783	2553	2157	
600	1-layer	1071	987	837	1477	1363	1154	1841	1698	1438	2153	1992	1695	2422	2246	1923	
	2-layer	1182	1083	909	1694	1552	1303	2193	2007	1687	2642	2433	2048	3107	2862	2427	

HL = Guide wall height from base of trench, h₁ = air inlet height, h₃ = Air "rising" duct above convactor, A = overall frame width

¹⁾ Heat output per m finned convactor length at LPHW 75/65 °C, room temp. 20 °C with a roll-up grille with a minimum free area of 65 %

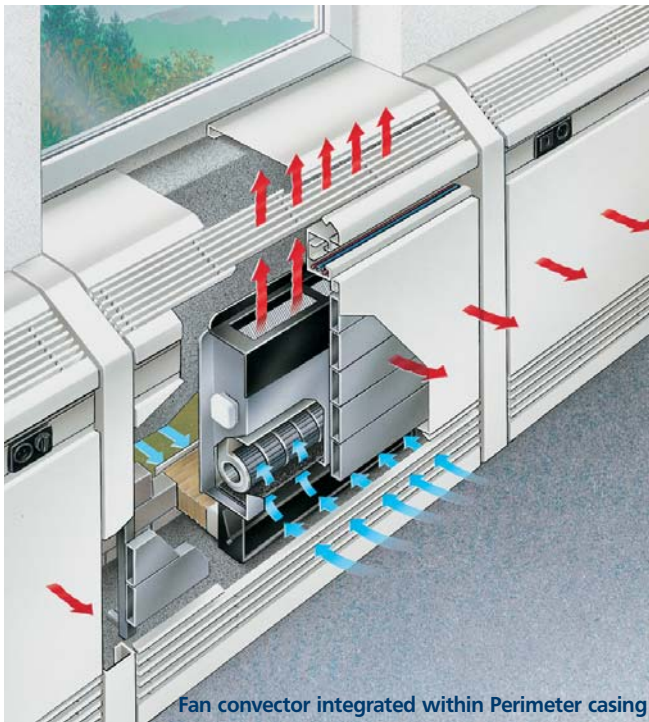
** Plus 50 mm for overall frame width A

Convectors single-layer · double-layer



Ideal for convectors, fan coil units and induction units

Tailor-made project solutions



Fan convector integrated within Perimeter casing



Tailor made casing with cable duct and angled air outlet



Tailor-made mitred casing

Perimeter casings Distinctly individual

Kampmann perimeter casings are a concept in wall-casings which can be tailored to particular project requirements. The casings are ideal for convectors, fan coil units and induction units. The front panels can also be used to provide radiated heat by the incorporation of heating pipes.

Columns

Using the structure of the building, columns support the casing and grilles on brackets which have adjustable height and depth.

Air outlet

The air outlet can be arranged either at the top, at a 25° slant or at the front.

Window sill

Depending on the design of the façade, the panel which fixes to the wall can also be designed as a window sill.

Slip joints

Slip joints between the panels discreetly offset structural tolerances.

Electrical and data ducts

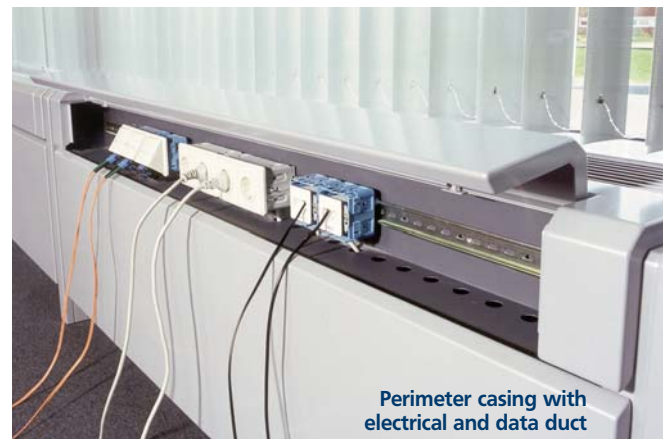
One or more electrical and data ducts can be integrated within the panel depending on requirements and height.

Powder-coating

Scratch-proof and durable, highly flexible
Visually attractive surface
All RAL colours are available

Technical data

Dimensions and design details can be stipulated at the planning stage.



Perimeter casing with electrical and data duct

1.25 High-capacity convectors

Designer casings

Wall-mounted and free-standing models



Encased convectors Designer warmth - tailor-made

The design of Kampmann steel convector casings has been developed with high-specification public, administrative and industrial buildings in mind.

Kampmann has an extensive range of wall-mounted and free-standing models. The wall-mounted models with their clever integral electrical and data ducts meet all the demands made today of office communication.

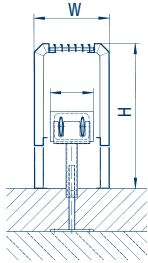
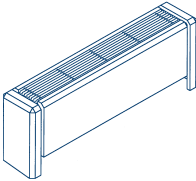
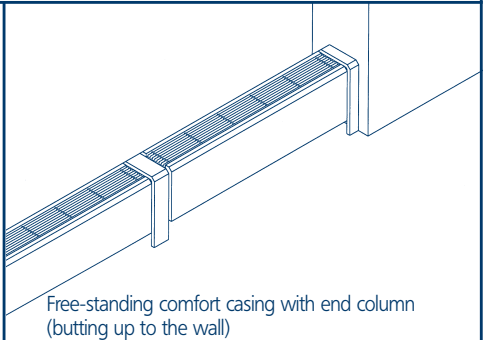
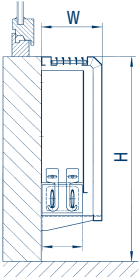
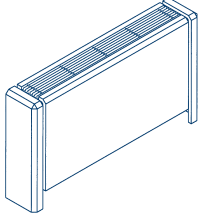
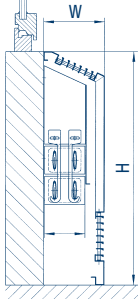
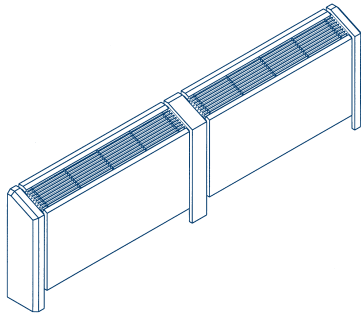
The wall models are intended to be mounted to window sills. They are designed with a 25° angled air outlet and can be supplied with or without kickboard or inlet grille. The range also includes mullions in which the water pipes can be concealed.

Free-standing models can also be placed in front of windows, in which case they are then laminated with aluminium on the inside.

It is the angled edges and linear grilles which give all models their attractive appearance. The casings have a standard powder coated finish (RAL 9016) which produces a durable easy-to-clean surface.

Technical data – Convectors, Comfort casings				
Model	Height mm	Depth mm	Convector depth mm	Heat output LPHW 75/65 °C, t _l = 20 °C W/m
Wall-mounted model	450 – 850	150 – 260	100 – 200	821 – 2563
Free-standing model	260 – 420	175 – 275		601 – 1858

Encased convectors

 Cross section free-standing comfort casing with 1-layer convector	 Free-standing comfort casing with end column	 Free-standing comfort casing with end column (butting up to the wall)	
 Cross section wall-mounted comfort casing, with top air outlet, without floor strip, without inlet grille, with 1-layer convector	 Wall-mounted comfort casing, top air outlet, without floor strip, without inlet grille, with 1-layer convector	 Cross section wall-mounted comfort casing, 25° sloping outlet, with floor strip and inlet grille, with 2-layer convector	 Wall-mounted comfort casing, 25° sloping outlet, with floor strip and inlet grille, with end column