

LZK Self-standing convector heaters

Convector heaters with lamellar heat-exchangers are popular for their simple design. They find their application especially at locations where larger glass surfaces, such as French windows, shop windows or walls exposed to cold air, need to be thermally screened. However, they also provide an elegant substitute for standard panel radiators.

A range of grille options and stands for floor mounting allows the designer to perfectly match the heater to the interior.

The casing, which forms a chimney shaft, helps optimise the heater function.

- Shopping malls, car showrooms, airport lounges
- Offices, administrative buildings
- Hotels
- Entrance areas, hallways, lobbies



The surface temperature of the heater cover never exceeds **43°C MAX**



Standard Equipment

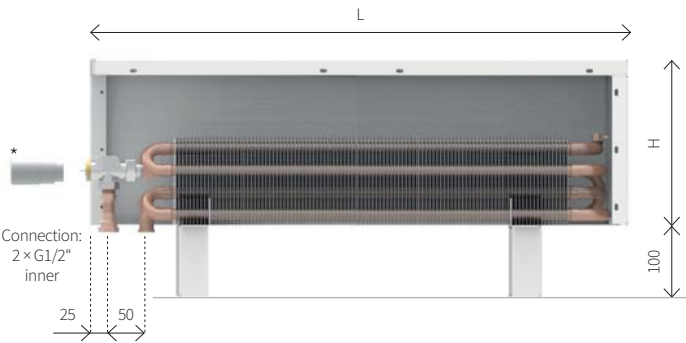
Cover	surface-treated steel sheet metal with an epoxy polyester powder coating
Grille	round or rectangular holes as per order specifications; the linear grille is securely attached to the cover
Heat-exchanger	Al-Cu lamellar heat-exchanger with a air vent valve, 2 × G1/2" inner connection threads
Valve	axial thermostatic valve, M30 x 1.5 thread with a 2.5 mm pitch (not supplied with side connection configuration)
Mounting	floor anchor stands as per order specifications

Operating Conditions

Max. operating temp.	110°C
Max. operating excess pressure	1 MPa (10 bar)
Protection	IP20
Ambient conditions	temperature T = +2 to +40°C humidity Rh = 20 to 70%

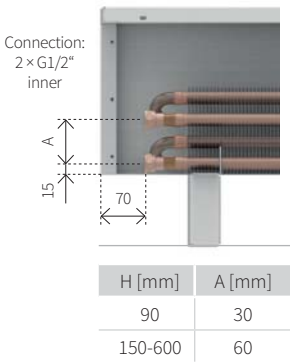
Convector Heater Options and Size Variations

Standard valve connection V



* thermostatic head not supplied with the heater

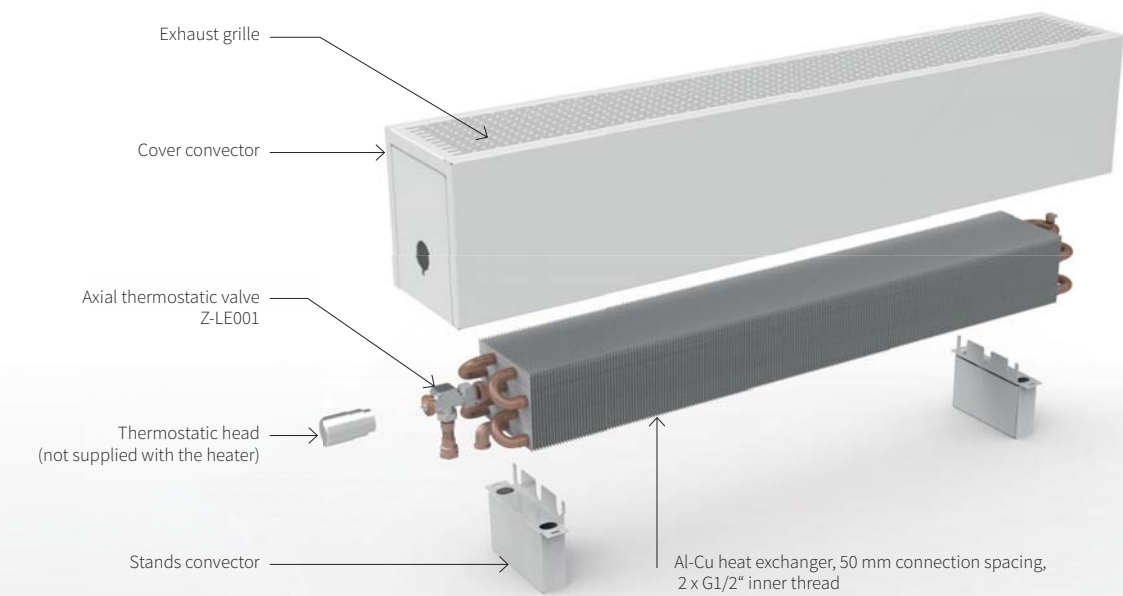
Side connection B



Convector heater size variations

	90	150	200	300	400	500	600
Height H [mm]	90	150	200	300	400	500	600
Width W [mm]	138	138	138	138	138	138	138
	198	198	198	198	198	198	198
	258	258	258	258	258	258	258
Length L [mm]	400-2800	400-2800	400-2800	400-2800	400-2000	400-1600	400-1600

Component parts of the convector heater



Accessories



► Details of accessories on the page 6

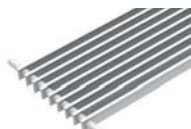
Grilles



Grille R
- rectangular holes



Grille C
- round holes



Grille L
- linear grille

tip Order grilles and stands in colours that vary from the cover to brighten up your interior

► Colour design options and grille details, page 5

Stands



Stand K
- floor mounting
- inconspicuous
- height 100 mm

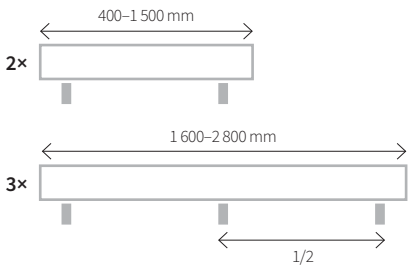


Stand S
- self-standing model
- cover water piping
- height 100 mm
(cannot be used for B connection)



Stand H
- subfloor mounting
- option of plastic cap
- height to order

Number of stands as per the body length



Coding

LZK	0150	0138	0400	C	01	R	1	V	L	K	
Model	Height H	Width W	Length L	Material	Colour	Grille	Grille colour	Connection type	Connection side	Stands	Atypical
LZK	0090 mm 0150 mm 0200 mm 0300 mm 0400 mm 0500 mm 0600 mm	0138 mm 0198 mm 0258 mm	0400 mm 0500 mm ... 1200 mm 1400 mm ... 2800 mm	C Sheet steel with surface finish and an epoxy polyester powder coating	As per RAL colour chart Structured colours Metallic paint colours See colour chart, page 57	R rectangular holes C round holes L linear grille	1 Same as cover colour 9 Grille in different colour	V With axial thermostatic valve, bottom connection, 50 mm spacing B Side connection, 60 mm spacing, valve not included in the delivery	L Left side R Right side	K Inconspicuous, subtle S Water piping cover H Subfloor mounting	Empty position for standard A In non-standard heater configurations

► Other options, see page 59

LZK - Self-standing convectors heating output

Width 138 mm

75/65/20°C	Height [mm] / Heating output [W]						
Length [mm]	90	150	200	300	400	500	600
400	113	179	196	221	241	258	272
500	161	235	256	290	316	338	357
600	209	314	342	386	421	450	476
700	256	381	415	469	511	547	578
800	304	448	488	552	601	643	679
900	352	515	561	634	692	740	781
1000	400	582	635	717	782	836	883
1100	447	649	708	799	872	932	985
1200	495	716	781	882	962	1029	1087
1400	590	850	927	1047	1142	1221	1290
1600	702	1007	1098	1240	1353	1446	1528
1800	797	1141	1244	1406	1533		
2000	893	1275	1391	1571	1713		
2200	988	1409	1537	1736			
2400	1083	1544	1683	1901			
2600	1179	1678	1829	2067			
2800	1274	1812	1976	2232			
Exponent n [-]	1,42	1,42	1,42	1,42	1,42	1,42	1,42

55/45/20°C	Height [mm] / Heating output [W]						
Length [mm]	90	150	200	300	400	500	600
400	55	87	95	107	117	125	132
500	78	114	124	140	153	164	173
600	101	152	166	187	204	218	230
700	124	184	201	227	248	265	280
800	147	217	236	267	291	311	329
900	170	249	272	307	335	358	378
1000	193	282	307	347	378	405	427
1100	217	314	343	387	422	451	477
1200	240	347	378	427	466	498	526
1400	286	412	449	507	553	591	624
1600	340	487	531	600	655	700	740
1800	386	552	602	680	742		
2000	432	617	673	760	829		
2200	478	682	744	840			
2400	525	747	815	920			
2600	571	812	885	1000			
2800	617	877	956	1080			
Exponent n [-]	1,42	1,42	1,42	1,42	1,42	1,42	1,42

Width 198 mm

75/65/20°C	Height [mm] / Heating output [W]						
Length [mm]	90	150	200	300	400	500	600
400	191	293	320	363	397	426	450
500	271	384	419	476	520	558	590
600	352	511	559	634	694	744	787
700	432	621	679	770	842	903	955
800	513	730	799	906	991	1062	1124
900	593	840	918	1042	1139	1221	1292
1000	673	949	1038	1177	1287	1380	1461
1100	754	1058	1157	1313	1436	1539	1629
1200	834	1168	1277	1449	1584	1698	1797
1400	995	1386	1516	1720	1881	2016	2134
1600	1183	1642	1796	2037	2228	2388	2527
1800	1344	1861	2035	2309	2525		
2000	1504	2080	2274	2580	2822		
2200	1665	2298	2514	2852			
2400	1826	2517	2753	3123			
2600	1987	2736	2992	3394			
2800	2148	2955	3231	3666			
Exponent n [-]	1,42	1,43	1,43	1,43	1,43	1,43	1,43

55/45/20°C	Height [mm] / Heating output [W]						
Length [mm]	90	150	200	300	400	500	600
400	93	141	154	175	191	205	217
500	132	185	202	229	251	269	285
600	170	247	270	306	335	359	380
700	209	299	327	371	406	435	461
800	248	352	385	437	478	512	542
900	287	405	443	502	549	589	623
1000	326	458	500	568	621	665	704
1100	365	510	558	633	692	742	785
1200	404	563	616	698	764	819	867
1400	482	668	731	829	907	972	1029
1600	573	792	866	982	1074	1151	1219
1800	651	897	981	1113	1217		
2000	729	1003	1097	1244	1360		
2200	807	1108	1212	1375			
2400	885	1214	1327	1506			
2600	963	1319	1443	1637			
2800	1041	1424	1557	1767			
Exponent n [-]	1,42	1,43	1,43	1,43	1,43	1,43	1,43

Width 258 mm

75/65/20°C	Height [mm] / Heating output [W]						
Length [mm]	90	150	200	300	400	500	600
400	266	414	448	501	543	577	607
500	377	543	587	657	711	757	796
600	489	723	783	876	949	1009	1061
700	601	878	951	1063	1151	1225	1288
800	713	1033	1118	1251	1354	1440	1515
900	825	1188	1286	1438	1557	1656	1742
1000	937	1342	1453	1626	1760	1872	1969
1100	1048	1497	1621	1813	1963	2088	2196
1200	1160	1652	1788	2000	2166	2303	2422
1400	1384	1961	2124	2375	2572	2735	2876
1600	1645	2323	2515	2813	3046	3239	3407
1800	1869	2632	2850	3188	3452		
2000	2093	2942	3185	3563	3857		
2200	2316	3251	3520	3937			
2400	2540	3561	3855	4312			
2600	2764	3870	4190	4687			
2800	2987	4180	4526	5062			
Exponent n [-]	1,42	1,45	1,45	1,45	1,45	1,45	1,45

55/45/20°C	Height [mm] / Heating output [W]						
Length [mm]	90	150	200	300	400	500	600
400	129	197	214	239	259	275	289
500	183	259	280	313	339	361	379
600	237	345	373	418	452	481	506
700	291	419	453	507	549	584	614
800	345	492	533	596	646	687	722
900	399	566	613	686	742	790	830
1000	453	640	693	775	839	892	939
1100	507	714	773	864	936	995	1047
1200	561	788	853	954	1033	1098	1155
1400	670	935	1012	1132	1226	1304	1371
1600	796	1108	1199	1341	1452	1544	1624
1800	904	1255	1359	1520	1646		
2000	1013	1403	1519	1699	1839		
2200	1121	1550	1678	1877			
2400	1229	1698	1838	2056			
2600	1337	1845	1998	2235			
2800	1446	1993	2158	2413			
Exponent n [-]	1,42	1,45	1,45	1,45	1,45	1,45	1,45

LZK - Heating output recalculation for another temperature gradient

To obtain the heating output for a different temperature gradient multiply heating output value at 75/65/20 °C by the below mentioned factor **f**.

Example

Heating output of the convector LZK 0200 0138 2000 for temperature gradient 70/55°C

1. Output 75/65/20 °C = 1 391 W

2. Factor from the table for 70/55/20 °C at 138 width: f = 0.794

3. Output 70/55/20 °C = f × 1391 = 1 104 W

Width 138 mm					
Height [mm]	90/70 °C	82/71 °C	70/55 °C	70/50 °C	50/40 °C
90	1,295	1,190	0,794	0,707	0,367
150	1,295	1,190	0,794	0,707	0,367
200	1,295	1,190	0,794	0,707	0,367
300	1,295	1,190	0,794	0,707	0,367
400	1,295	1,190	0,794	0,707	0,367
500	1,295	1,190	0,794	0,707	0,367
600	1,295	1,190	0,794	0,707	0,367

Room temperature 20 °C

Width 198 mm					
Height [mm]	90/70 °C	82/71 °C	70/55 °C	70/50 °C	50/40 °C
90	1,295	1,190	0,794	0,707	0,367
150	1,303	1,194	0,790	0,701	0,359
200	1,303	1,194	0,790	0,701	0,359
300	1,303	1,194	0,790	0,701	0,359
400	1,303	1,194	0,790	0,701	0,359
500	1,303	1,194	0,790	0,701	0,359
600	1,303	1,194	0,790	0,701	0,359

Room temperature 20 °C

Width 258 mm					
Height [mm]	90/70 °C	82/71 °C	70/55 °C	70/50 °C	50/40 °C
90	1,295	1,190	0,794	0,707	0,367
150	1,298	1,191	0,793	0,705	0,364
200	1,298	1,191	0,793	0,705	0,364
300	1,298	1,191	0,793	0,705	0,364
400	1,298	1,191	0,793	0,705	0,364
500	1,298	1,191	0,793	0,705	0,364
600	1,298	1,191	0,793	0,705	0,364

Room temperature 20 °C

Recalculation to other temperature gradients

Convector heating output reckoning follows by recalculation of the standardized output Q_n 75/65/20 °C

$$Q = Q_n \cdot \Psi \cdot (\Delta T / 50)^n \text{ [W]}; \text{ where } \Delta T = ((T_1 + T_2) / 2) - T_i \text{ [°C]}$$

- Q_n [W] heating output for temperature gradient
- Ψ [-] mass rate of flow coefficient (for current flow rate $\Psi = 1$)
- T_1 [°C] input water temperature
- T_2 [°C] output water temperature
- T_i [°C] temperature in the room
- n [-] temperature exponent

Heating water flow rate through exchanger

To reach the required heating output we determine the desired flow of heating water through the convector exchanger. We calculate it from heating output of the convector for the selected input and output temperatures of heating water.

$$M = 0,86 \cdot Q / (T_1 - T_2) \text{ [kg / h]}$$

- M [kg/h] mass rate of flow, heating water flowing through exchanger
- Q [W] convector heating output
- $T_1 - T_2$ [°C] difference between input and output temperature
- 0,86** invariable for recalculation of units

Table of hydraulic parameters of exchangers

For hydraulic parameters of exchangers see the page 48.

