8/S1
v 3.3 (en)

FLOOR CONVECTORS

PKN, PKF, PKH, PKH-4C

klimaoprema

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Definition of symbols

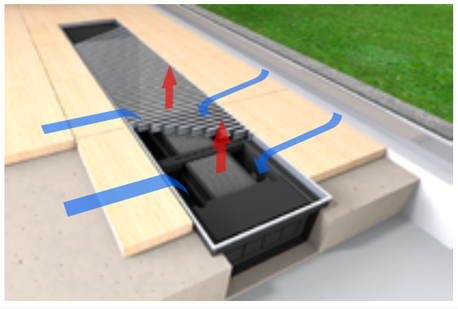
V	[m³/h]	Air flow rate	L	[m]	Window length
v_L	[m/s]	Cold jet velocity	t_{UL}	[°C]	Inlet air temperature
Δt_L	[°C]	Temperature difference	t_{IZ}	[°C]	Outlet air temperature
K	[W/m²K]	Heat coefficient	Q_H	[W]	Heating output
Q	[W]	Heat output	Q_C	[W]	Cooling output
L_{WA}	[dB(A)]	Sound power level	Q_S	[W]	Sensible heat output
c_L	[kJ/kgK]	Specific heat coefficient of cold air	U	[V]	Voltage
b	[m]	Window width	I	[A]	Current
h	[m]	Window height	P	[W]	Electric motor rated power
ρ	[kg/m³]	Air density	f	[Hz]	Frequency

Application

- Perfect for use in areas with high interior design requirements and spaces with large glass surfaces.
- Attractive solution used both as a primary heating or secondary cooling source depending on application of space.

Features

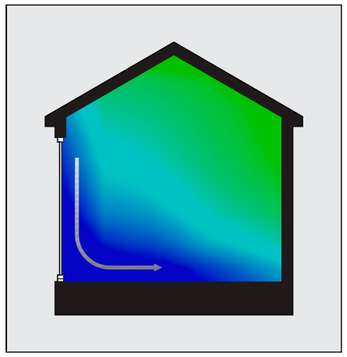
- Steel sheet casing powder coated in black color - RAL9005. Optional external 6 mm tick insulation.
- Cu/Al heat exchanger with profiled fins and 1/2” internal thread
- connections; each tested on 25 bar max pressure.
- Low noise tangential fans: 230V AC or 24V EC
- Wide range of attractive cover grilles made of anodized aluminium, wood or stainless steel in longitudinal or transverse roll-up design.
- Modular design allows easy connection and section adjustments
- Variety of accessories, regulation and inactive connection parts.



Advantages

Intersecting cold air stream

In rooms with large glass surfaces, cold air downwash is present from glass surfaces towards the rest of the room. Floor convectors intersect the cold air stream, creating a warm barrier between cold glass surface and the rest of the room. It improves the room comfort and prevents fogging of the glass surfaces.

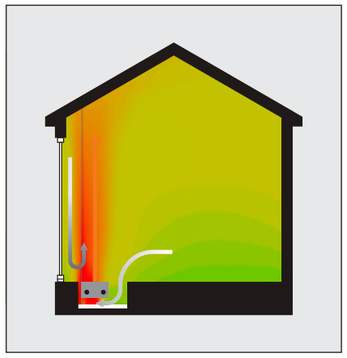


Cost effective

As an addition to floor heating system, floor convectors are great solution for short-term heating requirements during transitional periods between seasons.
In this way heating is only delivered when neccesary, avoiding unwanted heat transfer and saving money.

Instant heating

Heat exchangers provide rapid heat transfer due to large heat exchange surface. It is especially benificial in combination with slow heating systems.



High heat output at low input water temperatures

In heating systems with low water temperatures, floor convectors with forced convection are used. The principle of forced convection greatly increases heat output.

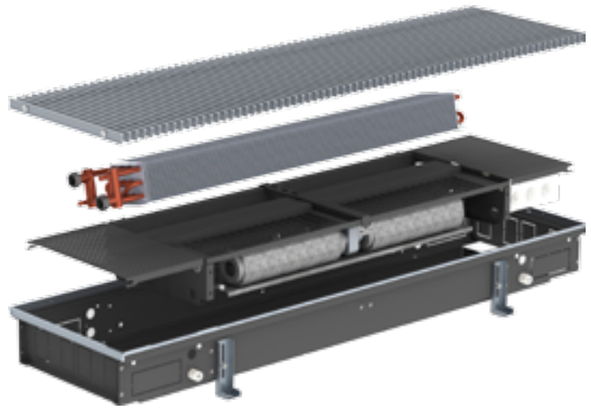
Attractive design

Compared to clasical heating systems, floor convectors are not using up usefull space nor interfering with room arrangement.

PKN | NATURAL CONVECTION HEATING

Natural convection is used for heat transfer from heating element to the surrounding air. Cold air is heavier and falls to the bottom of the casing. Air is then heated by a heat exchanger. As it gets warmer, it rises, and leaves the room for new cold air to fill the casing.

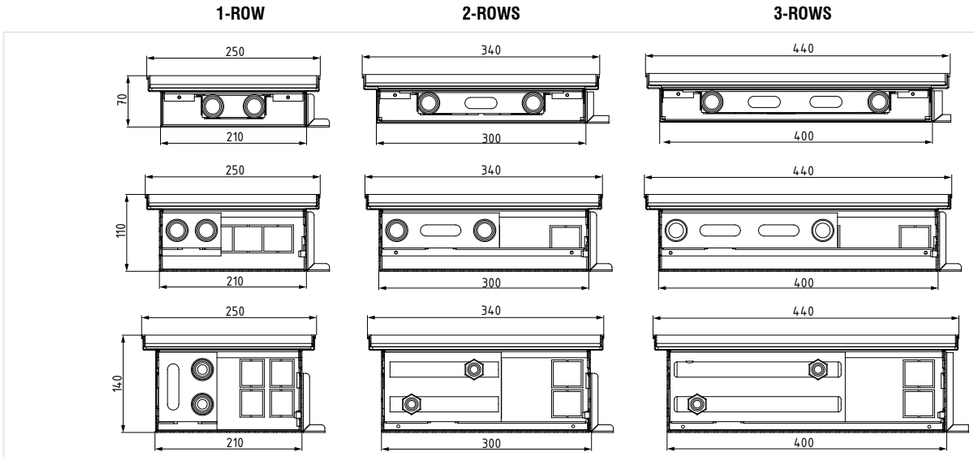
Length: 1000 to 3000 mm
Height: 70,110 or 140 mm
Heat output: 66 - 2570 W
Heat exchanger: 1-row, 2-row, 3-row



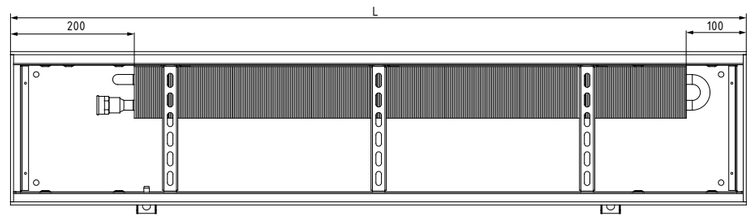
Heat output [W] - PKN

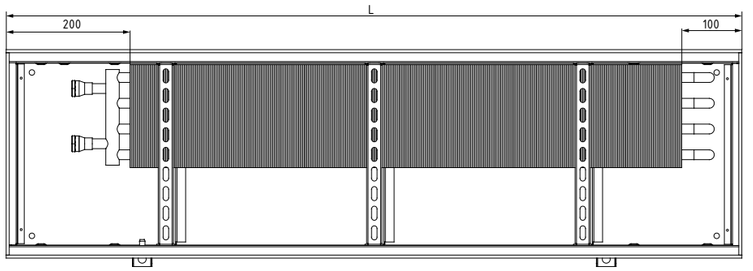
Length [mm]	Temperature regime	1-row			2-row			3-row		
		Height [mm]								
		70	110	140	70	110	140	70	110	140
1000	90/70/20 °C	198	280	329	351	460	532	494	632	831
	75/65/20 °C	153	223	256	279	376	427	398	522	671
	55/45/20 °C	66	102	111	129	186	199	189	264	323
1200	90/70/20 °C	257	349	412	437	571	667	619	781	1021
	75/65/20 °C	198	278	321	347	467	535	498	645	825
	55/45/20 °C	85	128	140	160	230	249	236	326	398
1400	90/70/20 °C	314	421	497	523	682	800	744	928	1213
	75/65/20 °C	242	335	387	416	558	642	599	766	980
	55/45/20 °C	104	154	169	192	275	299	284	387	473
1600	90/70/20 °C	372	492	582	608	893	936	870	1077	1405
	75/65/20 °C	287	392	453	483	731	751	700	889	1135
	55/45/20 °C	123	180	197	223	360	350	332	449	547
1800	90/70/20 °C	430	561	668	695	903	1071	993	1223	1595
	75/65/20 °C	332	447	520	552	739	859	799	1010	1289
	55/45/20 °C	143	205	226	255	364	400	379	511	622
2000	90/70/20 °C	487	632	751	781	1013	1204	1118	1370	1789
	75/65/20 °C	376	503	585	621	829	966	900	1131	1445
	55/45/20 °C	161	231	255	287	409	450	427	572	697
2200	90/70/20 °C	545	702	836	864	1124	1340	1242	1519	1980
	75/65/20 °C	421	559	651	687	920	1075	1000	1254	1600
	55/45/20 °C	180	257	284	317	453	501	474	634	771
2400	90/70/20 °C	602	774	920	951	1234	1475	1367	1665	2172
	75/65/20 °C	465	616	717	7556	1010	1183	1100	1375	1755
	55/45/20 °C	199	283	312	349	498	551	521	695	846
2600	90/70/20 °C	662	845	1005	1039	1346	1608	1491	1814	2363
	75/65/20 °C	511	673	783	826	1101	1290	1200	1498	1909
	55/45/20 °C	219	309	341	381	543	601	569	757	921
2800	90/70/20 °C	718	913	1090	1122	1458	1744	1615	1961	2555
	75/65/20 °C	554	727	849	892	1193	1399	1300	1619	2064
	55/45/20 °C	238	334	370	412	588	652	616	819	955
3000	90/70/20 °C	777	986	1178	1208	1569	1881	1740	2107	2570
	75/65/20 °C	600	785	918	960	1284	1509	1401	1740	2076
	55/45/20 °C	257	360	400	444	633	703	664	880	1001

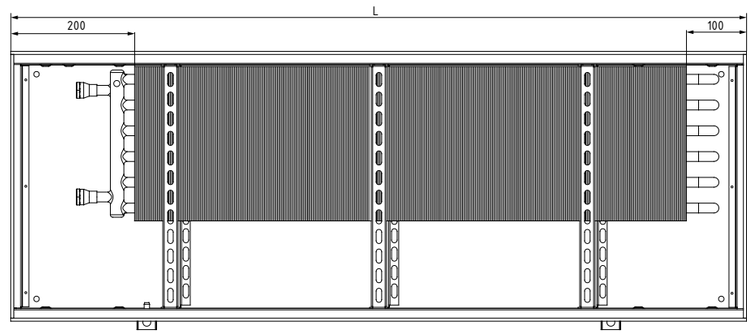
Dimensions - PKN



*water connections R1/2"





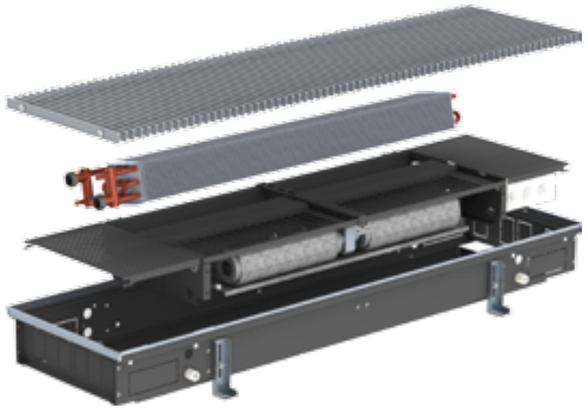


PKF | FORCED CONVECTION HEATING

Forced convection is achieved by using a built in fans to increase the airflow over heating surfaces, thus greatly improving heat transfer efficiency.

Length: 1000 to 3000 mm
Height: 110 or 140 mm
Heat output: 57 - 7360 W
Heat exchanger: 1-row, 2-row, 3-row

Fans / Controls
- 230 V AC - 3 speed transformer
- 230 V AC - control 0-10 V
- 24 V EC - control 0-10 V
- 12 V AC - on request



Heat output [W] - PKF-110

Length [mm]	LPHW	1-row				2-row					3-row		
		Fan speed											
		OFF	MIN	MED	MAX	OFF	MIN	MED	MAX	OFF	MIN	MED	MAX
1 fan													
1000	90/70/20 °C	148	575	762	1080	248	846	1130	1645	365	985	1412	1994
	75/65/20 °C	119	488	656	933	197	723	1020	1501	293	834	1303	1829
	55/45/20 °C	57	267	372	540	92	397	532	809	135	456	666	967
1200	90/70/20 °C	179	686	894	1235	318	1027	1343	1915	429	1329	1759	2416
	75/65/20 °C	144	583	770	1067	252	878	1211	1749	345	1128	1618	2207
	55/45/20 °C	69	319	436	618	117	482	631	942	159	617	827	1167
1400	90/70/20 °C	233	739	946	1289	408	1112	1428	2003	549	1444	1869	2528
	75/65/20 °C	188	628	816	1115	324	954	1292	1832	441	1228	1733	2317
	55/45/20 °C	90	343	462	645	151	523	673	987	203	672	886	1225
1600	90/70/20 °C	286	788	994	1339	503	1195	1515	2088	666	1556	1985	2640
	75/65/20 °C	231	670	856	1157	399	1033	1297	1819	535	1333	1698	2275
	55/45/20 °C	110	366	485	670	185	567	716	1034	246	729	940	1285
2 fans													
1800	90/70/20 °C	308	1320	1736	2419	548	1969	2602	3748	744	2547	3411	4720
	75/65/20 °C	248	1122	1595	1495	435	1683	2344	3418	598	2161	3143	4310
	55/45/20 °C	118	613	848	1210	202	924	1221	184	275	1182	1607	2279
2000	90/70/20 °C	361	1371	1789	2473	642	2056	2688	3832	869	2654	3523	4835
	75/65/20 °C	291	1166	1541	2137	509	1758	2419	3499	698	2259	3249	4417
	55/45/20 °C	139	637	873	1236	237	965	1260	1885	321	1235	1661	2335
2200	90/70/20 °C	415	1423	1842	2519	734	2137	2771	3915	979	2775	3632	4945
	75/65/20 °C	335	1210	1586	2182	582	1832	2493	3579	787	2357	3355	4523
	55/45/20 °C	160	662	899	1263	270	1005	1299	1928	362	1289	1716	2392
2400	90/70/20 °C	469	1474	1893	2573	824	2226	2863	4006	1101	2887	3748	5057
	75/65/20 °C	378	1253	1630	2226	654	1907	2436	3469	885	2446	3198	4335
	55/45/20 °C	180	685	924	1288	304	1046	1346	1973	407	1338	1770	2449
3 fans													
2600	90/70/20 °C	490	2004	2631	3654	871	2997	3953	5657	1175	3878	5172	7140
	75/65/20 °C	395	1704	2266	3159	691	2562	3555	5167	944	3290	4766	6517
	55/45/20 °C	188	932	1284	1828	321	1406	1852	2784	434	1799	2437	3446
2800	90/70/20 °C	542	2056	2684	3707	963	3083	4030	5752	1292	3992	5284	7252
	75/65/20 °C	437	1771	2311	3204	764	2636	3634	5247	1038	3388	4872	6623
	55/45/20 °C	208	969	1310	1854	355	1446	1894	2827	478	1853	2492	3502
3000	90/70/20 °C	596	2115	2735	3760	1053	3170	4115	5844	1413	4106	5397	7360
	75/65/20 °C	481	1838	2355	3250	835	2710	3710	5328	1135	3485	4979	6730
	55/45/20 °C	229	1005	1335	1880	388	1487	1935	2871	522	1906	2546	3559

FLOOR CONVECTORS - PKN, PKF

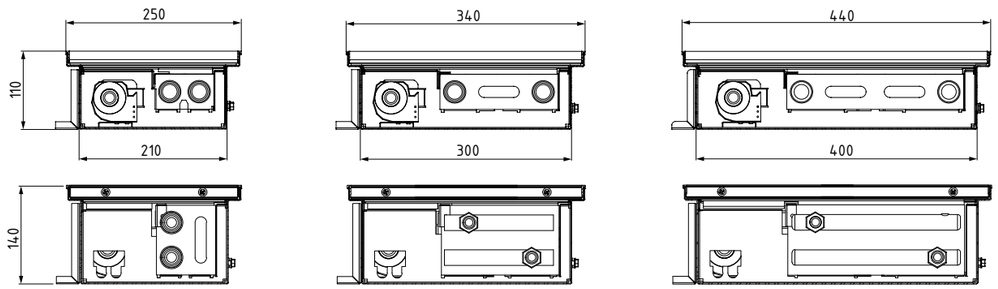
Heat output [W] - PKF-140

Length [mm]	LPHW	1-row				2-row					3-row		
		Fan speed											
		OFF	MIN	MED	MAX	OFF	MIN	MED	MAX	OFF	MIN	MED	MAX
1 fan													
1000	90/70/20 °C	187	693	1066	1532	302	1145	1630	2315	409	1568	1418	1987
	75/65/20 °C	151	586	920	1310	240	965	1388	1986	322	1309	1203	1708
	55/45/20 °C	72	321	530	735	112	520	771	1121	141	684	662	964
1200	90/70/20 °C	257	1042	1347	1834	420	1378	1772	2400	668	1714	2163	2884
	75/65/20 °C	207	881	1162	1568	334	1161	1509	2059	526	1431	1836	2479
	55/45/20 °C	99	482	669	880	155	626	839	1162	231	748	1010	1399
1400	90/70/20 °C	317	1097	1400	1896	515	1467	1864	2492	810	1847	2297	3015
	75/65/20 °C	256	928	1208	1621	409	1236	1588	2138	638	1542	1949	2592
	55/45/20 °C	122	508	696	910	190	666	883	1207	280	806	1072	1463
1600	90/70/20 °C	370	1157	1458	1944	610	1556	1951	2578	941	1984	2417	3145
	75/65/20 °C	298	978	1258	1662	485	1311	1662	2212	741	1656	2051	2703
	55/45/20 °C	142	535	725	933	225	707	924	1248	326	866	1128	1525
2 fans													
1800	90/70/20 °C	445	1606	2077	2803	725	2151	2748	3686	1129	2703	3376	4470
	75/65/20 °C	359	1358	1792	2396	576	1812	2341	3163	889	2257	2865	3842
	55/45/20 °C	171	743	1032	1345	268	997	1301	1785	391	1180	1576	2168
2000	90/70/20 °C	521	2106	2694	3672	839	2747	3527	4789	1327	3420	4211	5435
	75/65/20 °C	420	1781	2324	3139	667	2314	3004	4109	1045	2855	3659	4672
	55/45/20 °C	200	975	1339	1762	310	1247	1669	2319	459	1492	2013	2637
2200	90/70/20 °C	578	2152	2746	3722	925	2838	3629	4876	1470	3559	4468	5916
	75/65/20 °C	466	1820	2369	3282	735	2391	3091	4184	1158	2971	3792	5085
	55/45/20 °C	222	996	1364	1787	342	1289	1718	2361	509	1553	2086	2870
2400	90/70/20 °C	631	2206	2796	3783	1029	2929	3716	4974	1610	3695	4588	6044
	75/65/20 °C	509	1865	2412	3234	818	2468	3165	4268	1268	3085	3894	5195
	55/45/20 °C	243	1021	1389	1816	380	1330	1759	2409	557	1613	2142	2932
3 fans													
2600	90/70/20 °C	708	2679	3421	4659	1134	3515	4515	6083	1801	4414	5536	7362
	75/65/20 °C	571	2265	2951	3983	901	2961	3846	5219	1418	3685	4698	6328
	55/45/20 °C	272	1240	1700	2236	419	1596	2137	2945	623	1926	2584	3571
2800	90/70/20 °C	782	3156	4040	5522	1254	4116	5297	7192	1978	5128	6487	8681
	75/65/20 °C	631	2669	3485	4721	997	3468	4512	6171	1558	4281	5505	7462
	55/45/20 °C	301	1461	2007	2651	463	1869	2508	3482	685	2238	3028	4211
3000	90/70/20 °C	836	3191	4099	5572	1053	3170	4115	5844	2118	5273	6601	8809
	75/65/20 °C	674	2696	3536	4763	1078	3546	4588	6239	1668	4402	5602	7572
	55/45/20 °C	321	1477	2037	2674	1359	4209	5386	7272	733	2301	3082	4273

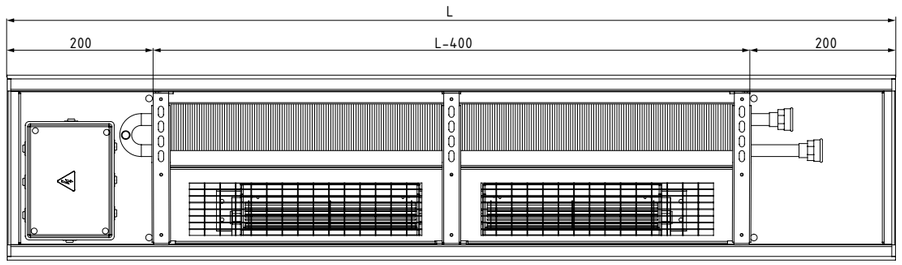
Design changes reserved

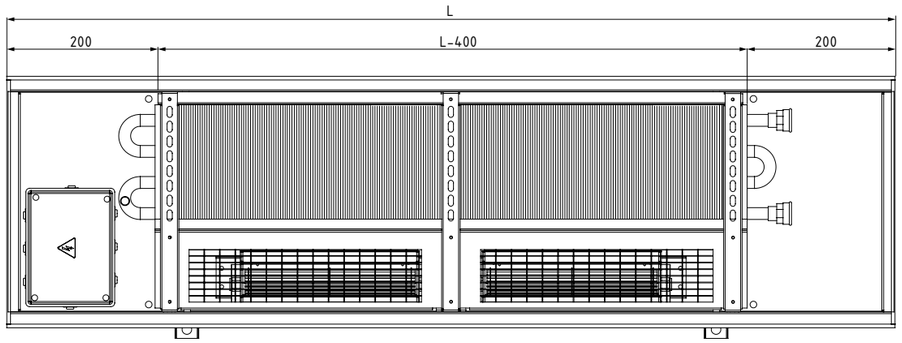
Dimensions - PKF

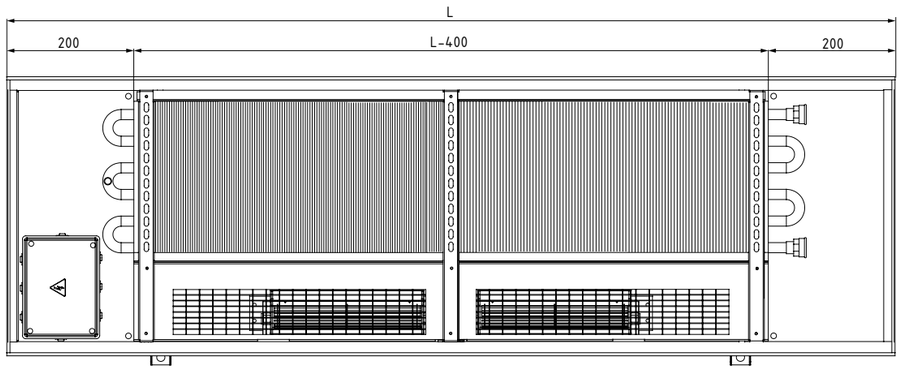
1-ROW **2-ROWS** **3-ROWS**



*water connections R1/2”







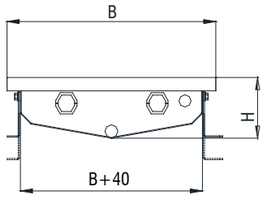
PKV | FOR DAMP LOCATIONS

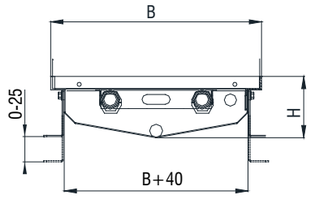
- Version for heating of damp areas (swimming pools, winter gardens etc.)
- Natural or forced convection
- Special 12V crossflow fans (power supply unit has to be provided outside of the floor convector)
- Unique casing design with water drain and dividing rack

Length: 1000 to 3000 mm
Height: 110 or 140 mm
Heat output:
Heat exchanger: 1-row, 2-row, 3-row

Fans / Controls
12 V AC

PKV-N (Natural convection)

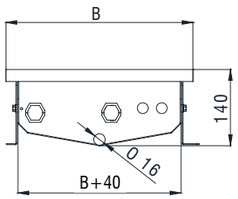


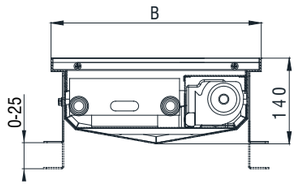


connection - R 1/2”

Heat exchanger	B [mm]	H [mm]
1-row	250	100
		140
		170
2-rows	340	100
		140
		170
3-rows	440	100
		140
		170

PKV-F (Forced convection)





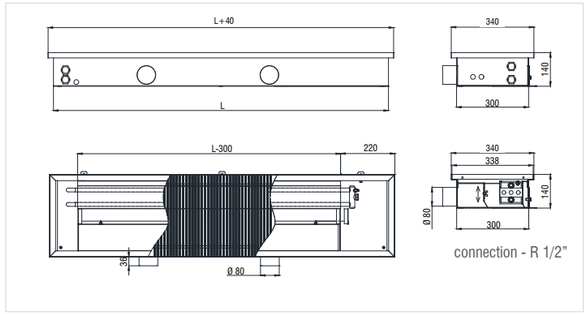
connection - R 1/2”

Heat exchanger	B [mm]	H [mm]
1-row	250	140
2-row	340	140
3-row	440	140

OPTIONS

Fresh air supply - PKS

- fresh air supply connection with a flow damper.

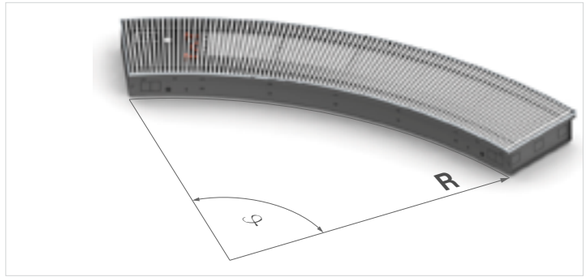


EBM EC - electronically controled motors

- electronic control
- up to 30% more efficient than conventional motors
- low noise levels
- remote control via ModBus

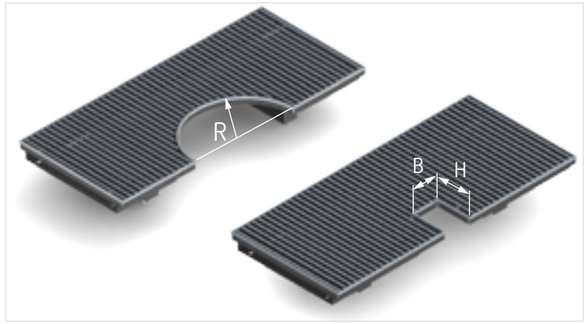
Curved section (QL-518)

Ordering key:	QL-518	110	2	1000	90
Convector height **70, 110, 130, 140, 150**					
No. of rows **1, 2, 3**					
Radius **R**					
Angle **φ**					



Empty section with round/rectangular cut-out (QL-517)

Ordering key:	QL-517	110	2	80x120
Convector height **70, 110, 130, 140, 150**				
No. of rows **1, 2, 3**				
Cut-out dimensions **R / BxH**				

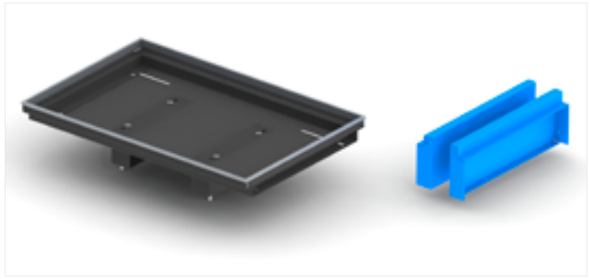


OPTIONS

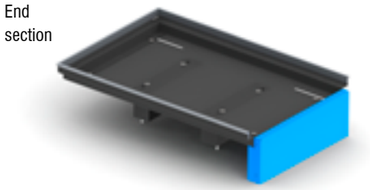
Connecting section QL-512

- Universal connection module
- Fully costumizable module (4 different possibilities)
- All modules can be shortened on site up to 100mm
- Available lengths: 250, 500 and 1000 mm
- Option: load bearing cover (QL-515)

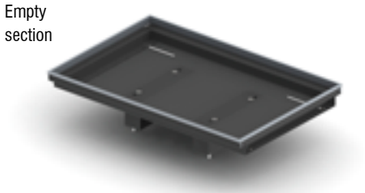
Ordering key:	QL-512	110	2	R
Convector height **70, 110, 130, 140, 150**				
No. of rows **1, 2, 3**				
Grille type (**R** - roll-up / **F** - linear)				



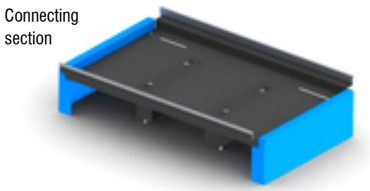
End section



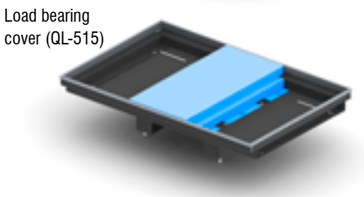
Empty section



Connecting section

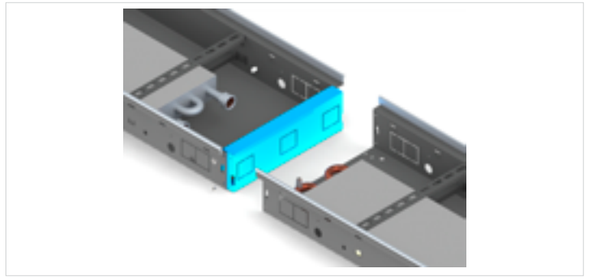


Load bearing cover (QL-515)



Connection piece (QL-516)

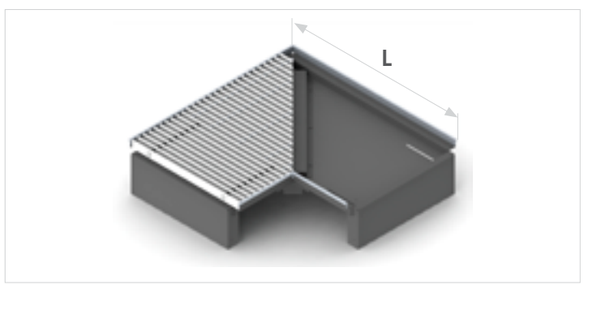
Ordering key:	QL-516	110	2
Convector height **70, 110, 130, 140, 150**			
No. of rows **1, 2, 3**			



Corner connection (QL-519 roll up grille / QL-520 linear grille)

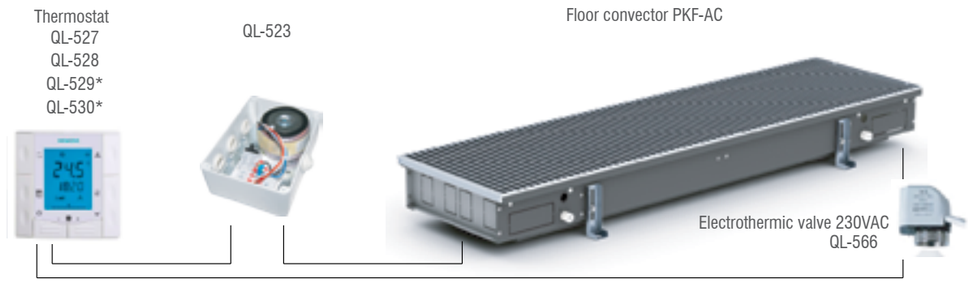
Ordering key:	QL-519	110	2
Convector height **70, 110, 130, 140, 150**			
No. of rows **1, 2, 3**			

No. of rows	1-row	2-row	3-row
L	300	400	500



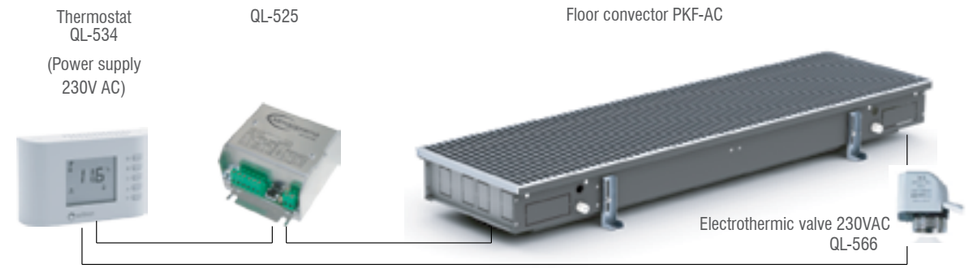
CONTROL OPTIONS

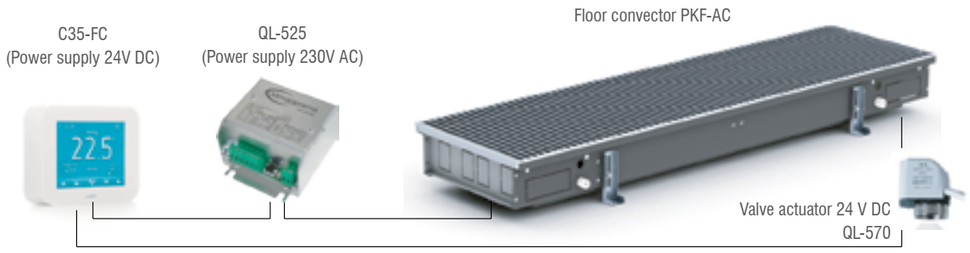
Standard control - 230V (3-speed regulation)



* Relay plate must be included

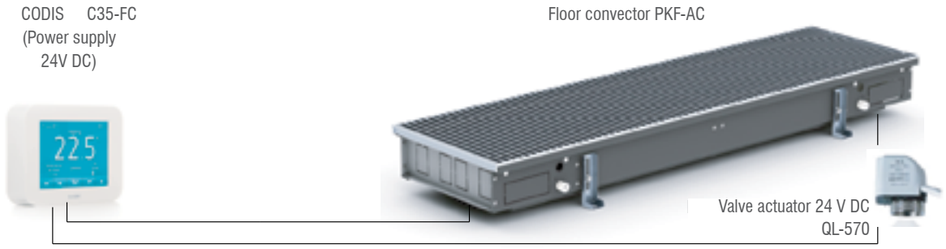
Option - 230V (0-10V regulation)





**Power supply 24V DC should be provided externally

Option - 24V EC (0-10V regulation)

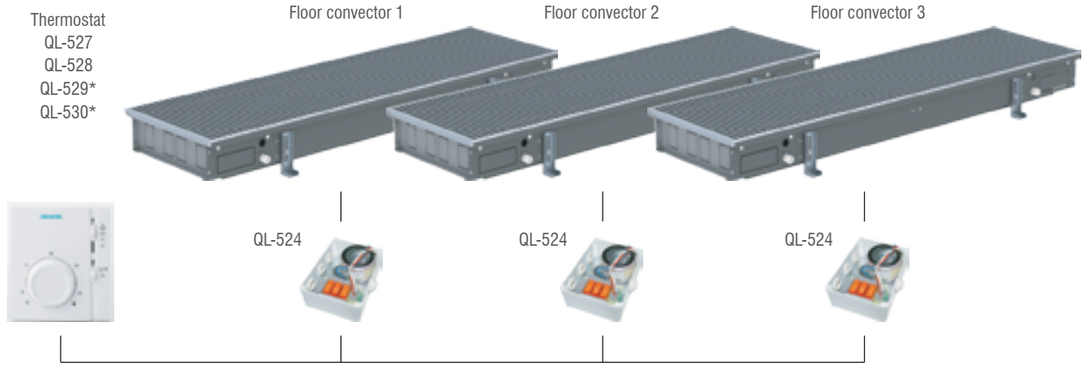


**Power supply 24V DC should be provided externally

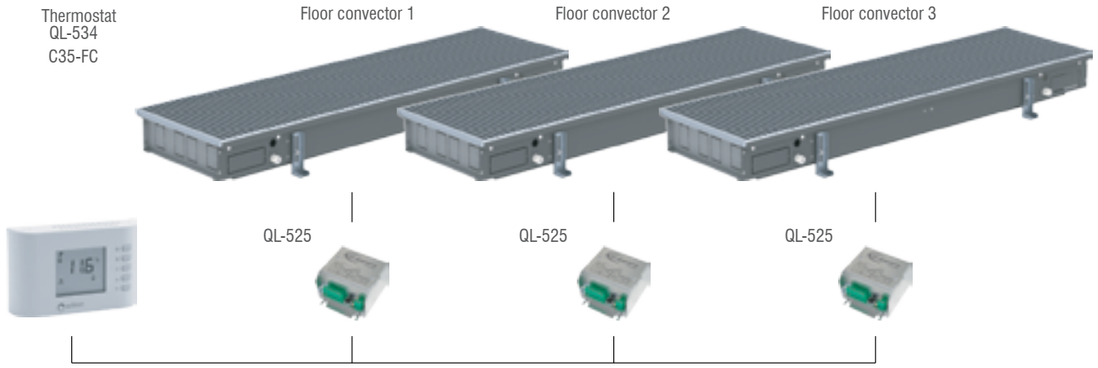
Connecting multiple convectors with one thermostat

- Relay plate QL-524
- Number of relay plates is equal to number of autotransformers that control the group of convectors
- Power supply, motors and electrothermic valves are connected to relay plate
- Relay plate is placed together with the autotransformer in the junction box
- If thermostats QL-529 or QL-530 are used, connection of the relay plate is neccesary

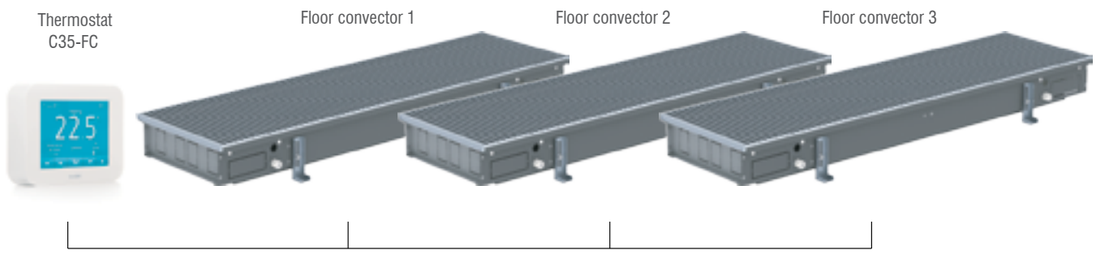
230V AC (3-speed regulation)



230V AC (0-10V regulation)



24V EC (0-10V regulation)



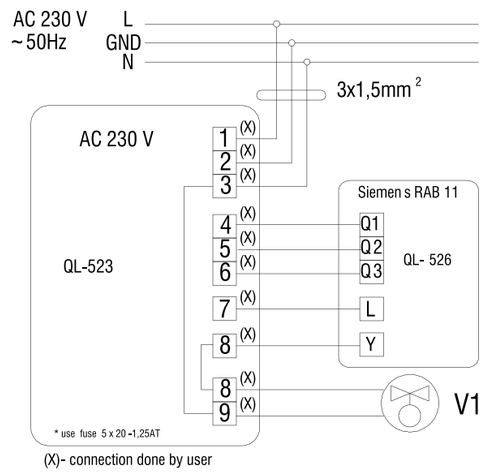
WIRING DIAGRAMS

3 speed regulation - single convector
Manual thermostat
exp. Siemens RAB 11

1 - Power supply (phase)
2 - Power supply (neutral)
3 - Ground
4 - MAX -fan speed
5 - MED - fan speed
6 - MIN - fan speed

7 - power supply (phase)

8 - Zone valve heating
9 - Power supply (neutral)

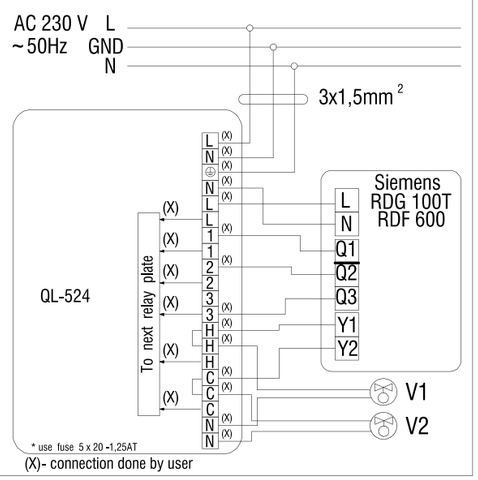


(X)- connection done by user

3 speed regulation - single/multiple convectors
Digital thermostat
exp. Siemens RDG100T

L - Supply (phase)
N - Supply (neutral)
⏚ - Ground
3 - MAX -fan speed
2 - MED - fan speed
1 - MIN - fan speed

H - Zone valve heating
C - Zone valve cooling
N - Neutral, valve



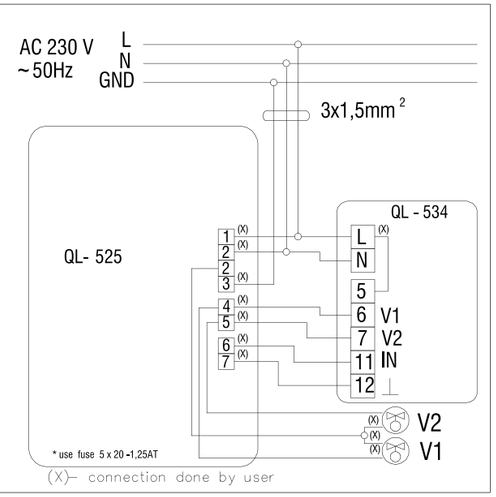
(X)- connection done by user

WIRING DIAGRAMS

0-10V regulation - single/multiple convectors
Digital thermostat
exp. Seitron TFZ01M

1 - Power supply (phas e)
2 - Power supply (neutral)
3 - Ground
4 - Zone valve heating
5 - Zone valve cooling

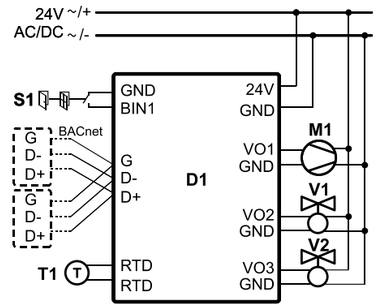
6 - Control signal input
7 - Control signal reference



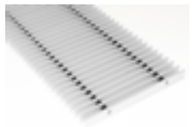
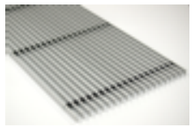
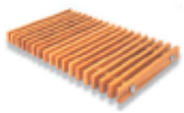
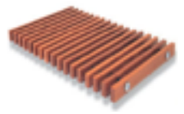
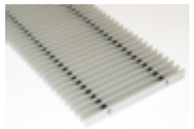
(X)- connection done by user

Codis C35-FC 4-pipe fan coil unit with
BACnet/MSTP communication

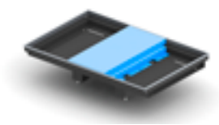
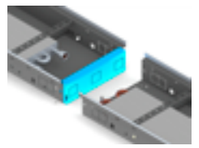
D1 - Zone controller C35-FD-B/RS
M1 - EMC fan
V1 - valve actuator 0-10V (heating)
V2 -valve actuator 0-10V (cooling)
S1 - Switch for window or door contact
T1 - Remote thermostat Pt1000



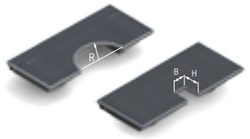
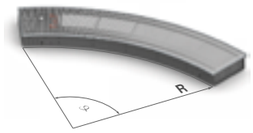
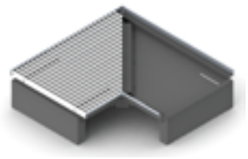
ACCESSORIES

Image	Description	Ordering code	Suitable for
	Roll-up al. grille	QL-501-1	**All models**
		QL-501-2	**All models**
		QL-501-3	**All models**
	Roll-up al. grille - anodized		**All models**
		QL-502-2	**All models**
		QL-502-3	**All models**
	Roll-up al. grille - RAL…	QL-503-1	**All models**
		QL-503-2	**All models**
		QL-503-3	**All models**
	Linear al. grille	QL-504-1	**All models**
		QL-504-2	**All models**
		QL-504-3	**All models**
	Linear al. grille - anodized	QL-505-1	**All models**
		QL-505-2	**All models**
		QL-505-3	**All models**
	Linear al. grille - RAL…	QL-506-1	**All models**
		QL-506-2	**All models**
		QL-506-3	**All models**
	Roll-up al. grille - beech	QL-507-1	**All models**
		QL-507-2	**All models**
		QL-507-3	**All models**
	Roll-up al. grille - oak	QL-508-1	**All models**
		QL-508-2	**All models**
		QL-508-3	**All models**
	Roll-up al. grille - cherry	QL-509-1	**All models**
		QL-509-2	**All models**
		QL-509-3	**All models**
	Roll-up grille - inox	QL-510-1	**All models**
		QL-510-2	**All models**
		QL-510-3	**All models**

ACCESSORIES

Image	Description	Ordering code	Suitable for	
	Optional F frame	QL-511	**All models**	
	Inactive section set (Length=0,25m)	QL-512-701	**PKN 70**	1-row
		QL-512-702		2-row
				3-row
		QL-512-111	**PKN 110 / PKF 110**	1- row
		QL-512-112		2-row
		QL-512-113		3-row
		QL-512-132	**PKH 130**	
		QL-512-141	**PKN 140 / PKF 140**	1-row
		QL-512-142		2-row
		QL-512-143		3-row
		QL-512-152	**PKH 150**	
	Inactive section set (Length=0,5m)	QL-513-701	**PKN 70**	1-row
		QL-513-702		2-row
		QL-513-703		3-row
		QL-513-111	**PKN 110 / PKF 110**	1- row
		QL-513-112		2-row
		QL-513-113		3-row
		QL-513-132	**PKH 130**	
		QL-513-141	**PKN 140 / PKF 140**	1-row
		QL-513-142		2-row
		QL-513-143		3-row
		QL-513-152	**PKH 150**	
	Inactive section set (Length=1,0m)	QL-514-701	**PKN 70**	1-row
		QL-514-702		2-row
		QL-514-703		3-row
		QL-514-111	**PKN 110 / PKF 110**	1- row
		QL-514-112		2-row
		QL-514-113		3-row
		QL-514-133	**PKH 130**	
		QL-514-141	**PKN 140 / PKF 140**	1-row
		QL-514-142		2-row
		QL-514-143		3-row
		QL-514-153	**PKH 150**	
	Load bearing cover	QL-515-701	**All models**	1-row
		QL-515-702		2-row
		QL-515-703		3-row
	Casing connection piece	QL-516-701	**PKN 70**	1-row
		QL-516-702		2-row
		QL-516-703		3-row
		QL-516-111	**PKN 110 / PKF 110**	1- row
		QL-516-112		2-row
		QL-516-113		3-row
		QL-516-132	**PKH 130**	
		QL-516-141	**PKN 140 / PKF 140**	1-row
		QL-516-142		2-row
		QL-516-143		3-row
		QL-516-152	**PKH 150**	

ACCESSORIES

Image	Description	Ordering code	Suitable for	
	Cut out section	QL-517-701	**PKN 70**	1-row
		QL-517-702		2-row
				3-row
		QL-517-111	**PKN 110 / PKF 110**	1- row
		QL-517-112		2-row
		QL-517-113		3-row
		QL-517-132	**PKH 130**	
		QL-517-141	**PKN 140 / PKF 140**	1-row
		QL-517-142		2-row
		QL-517-143		3-row
		QL-517-152	**PKH 150**	
	Curved section	QL-518	**All models**	
	Corner section 90° Roll up grille	QL-519-701	**PKN 70**	1-row
		QL-519-702		2-row
		QL-519-703		3-row
		QL-519-111	**PKN 110 / PKF 110**	1- row
		QL-519-112		2-row
		QL-519-113		3-row
		QL-519-132	**PKH 130**	
		QL-519-141	**PKN 140 / PKF 140**	1-row
		QL-519-142		2-row
		QL-519-143		3-row
		QL-519-152	**PKH 150**	
	Corner section 90° Linear grille	QL-520-701	**PKN 70**	1-row
		QL-520-702		2-row
		QL-520-703		3-row
		QL-520-111	**PKN 110 / PKF 110**	1- row
		QL-520-112		2-row
		QL-520-113		3-row
		QL-520-132	**PKH 130**	
		QL-520-141	**PKN 140 / PKF 140**	1-row
		QL-520-142		2-row
		QL-520-143		3-row
		QL-520-152	**PKH 150**	

ACCESSORIES

Image	Description	Ordering code	Suitable for
	Filter G2	QL-521	**PKF, PKH, PKH-4C**
	External casing insulation	QL-522	**All models**
	Control box AT6	QL523	**PKF, PKH, PKH-4C**
	Control box AT6-Relay	QL-524	**PKF, PKH, PKH-4C**
	Silent drive (230V AC; 0-10V)	QL-525	**PKF, PKH, PKH-4C**
	Room thermostat RAA21	QL-526	**PKN**
	Thermostat 3-step	QL-527	**PKF, PKH**
	Thermostat 3-step	QL-528	**PKH-4C**
	Thermostat digital	QL-594	**PKF, PKH**
	Termostat digital.	QL-530	**PKF, PKH, PKH-4C**
	Frame for RDF thermostat	QL-531	**PKF, PKH, PKH-4C**
	Remote control for RDG and RDF	QL-532	**PKF, PKH, PKH-4C**
	Thermostat digital	QL-533	**PKF, PKH, PKH-4C**
	Thermostat digital 0-10V	QL-534	**PKF, PKH, PKH-4C**
	FC controller, temperature sensor	C35-FC	**PKF, PKH, PKH-4C**
	FC controller, temperature sensor, BACnet	C35-FC-B/RS	**PKF, PKH, PKH-4C**
	FC controller, temperature sensor, humidity sensor	C35-FC-H	**PKF, PKH, PKH-4C**
	FC controller, temperature sensor, humidity sensor, BACnet	C35-FC-H-B/RS	**PKF, PKH, PKH-4C**

ACCESSORIES

Image	Description	Ordering code	Suitable for
	Service valve 1/2” Service valve 3/4”	QL-535 QL-536	**All models**
	Radiator valve straight 1/2” Radiator valve angled 1/2”	QL-537 QL-538	**All models**
	Thermostatic valve straight 1/2” Thermostatic valve straight 3/4”	QL-539 QL-540	**All models**
	Thermostatic valve angular 1/2” Thermostatic valve angular 3/4”	QL-541 QL-542	**All models**
	Lockshield valve straight 1/2” Lockshield valve straight 3/4”	QL-543 QL-544	**All models**
	Lockshield valve angled 1/2” Lockshield valve angled 3/4”	QL-545 QL-546	**All models**
	3-way valve 3p 1/2” 3-way valve 3p 3/4”	QL-547 QL-548	**All models**
	4-way valve 4p 1/2” 4-way valve 4p 3/4”	QL-549 QL-550	**All models**
	Balancing valve 1/2” Balancing valve 3/4”	QL-551 QL-552	**All models**
	Flexible couplings 1/2” Flexible couplings 3/4”	QL-553 QL-554	**All models**
	Thermostat head	QL-555	**All models**
	Thermostate head - RAL 9016	QL-556	**All models**
	Thermostate head - RAL 9005	QL-557	**All models**

FLOOR CONVECTORS - PKN, PKF

ACCESSORIES

Image	Description	Ordering code		Suitable for
	Thermostate head - metal matte	QL-558		**All models**
	Thermostate head - metal chrome	QL-559		**All models**
	Thermostate head - white chrome	QL-560		**All models**
	Cable temperature sensor	QL-561		**All models**
	Thermostat head with remote regulator	2m	QL-562	**All models**
		5m	QL-563	**All models**
		8m	QL-564	**All models**
	Thermostat head with remote regulator and temperature sensor	QL-565		**All models**
	Electrothermic valve drive 230 V - NC	QL-566		**All models**
	Electrothermic valve drive 24 V - NC	QL-567		
	Electrothermic valve drive 230 V - NO	QL-568		
	Electrothermic valve drive 24 V - NO	QL-569		
	Valve actuator 24V DC; 0-10V	QL-570		**All models**
	Condensate pump set	QL-571		**All models**
	Magnet switch - window/door	QL-572		**All models**
	Transformer terminal box AC 230V-DC 24V-100 W	QL -595		**PKF, PKH, PKH-4C**
	Transformer terminal box AC 230V-DC 24V-75 W	QL -596		**PKF, PKH, PKH-4C**
	Transformer terminal box AC 230V-DC 24V-50 W	QL -597		**PKF, PKH, PKH-4C**

Design changes reserved

Floor convector selection

For given height and width of glass surface, heat transfer coefficient K and outside temperature, we can calculate convector selection parameters.

Example:

- from diagram 1, $\Delta t_L = 7$ K
- from diagram 2 cold air velocity v=0,36 m/s.
- from diagram 3 airflow rate, $V_L = 52$ m³/h

To prevent cold air intrusion in room, necessary heat output per meter length is determined by:

$$Q_{convector} > Q_{falling\ air}$$

$$Q_{falling\ air} = \frac{V_L * c_L * b * \Delta t_L * \rho}{3600}$$

Inserting known values
$V_L = 52$ m³/h
$c_L = 1{,}006$ kJ/kgK
b =1m (glass width)
$\Delta t_L = 7$ K
$\rho = 1{,}2$ kg/m³

$$Q_{falling\ air} = 0{,}122 \text{ kW}$$

In accordance with result above, a floor convector with minimal length of 1m and minimal heat output of 0,122kW can be selected.

Diagram 1: Temperature difference of glass surface, at room temperature 20°C

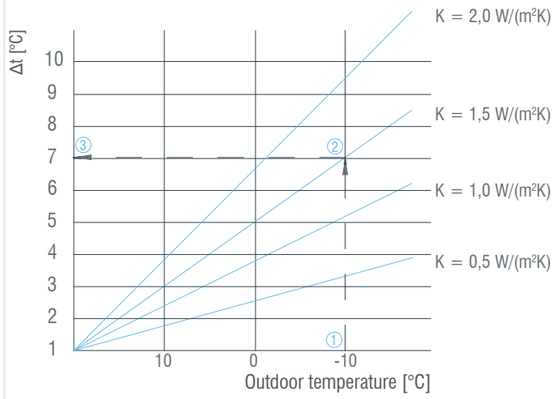


Diagram 2: Cold air velocity

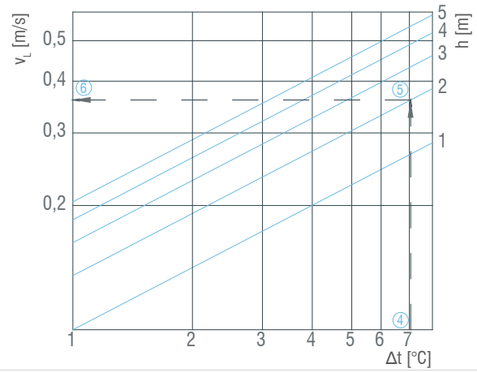
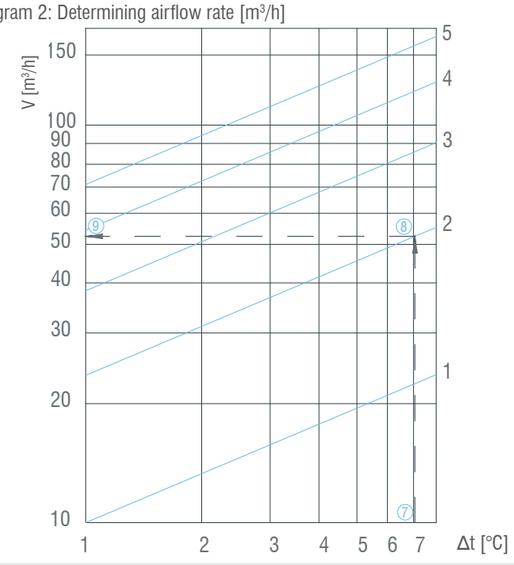


Diagram 2: Determining airflow rate [m³/h]



Standard delivery:

Steel and aluminium parts powder coated in RAL 9005		Leveling mounts for height adjusting and casing fixing	
Efficient low volume heat exchanger with bleed valve 1/4”		Protective wooden cover	
Silent 230V AC or 24V EC tangential fans		PVC foil and carton box packaging with polystyrene corner and side protection	
Leveling screws		Installation and operation manual	
Standard U frame			

Ordering key

Type **PKN / PKF / PKH / PKH-4C**	**PKN**	**- 70**	**- 1**	**- 2000**
Casing height **70** (PKN); **110** (PKN, PKF); **130** (PKH, PKH-4C), **140** (PKN, PKF); **150** (PKH, PKH-4C)				
1- row width 210/250 mm **2**- row width 300/340 mm **3**- row width 400/440 mm				
Casing length [mm]				

Accessories

- QL-xxx