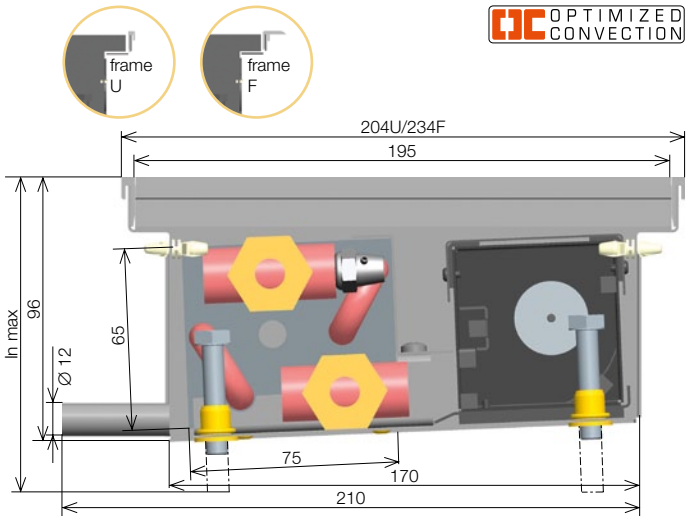
Floor convector with forced convection for heating or cooling
Licon PKIOC 9/20

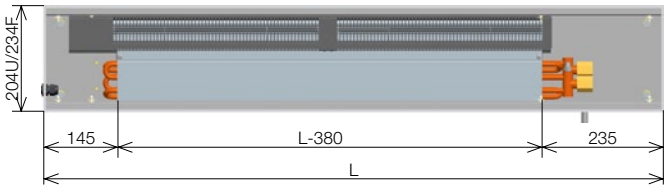
NEW

OPTIMIZED CONVECTION

- used for heating or cooling
- high heating and cooling output
- intended for two-pipe systems
- stainless steel design Inox AISI 304 for dry environment only
- the narrowest type of compact dimensions
- possibility to control via BMS (Building Management System)
- standard finish Inox (unpainted stainless steel AISI 304)
- the convector use in for dry environment only



The given dimensions are in mm and including frames U and F.



Specifications

width including the U/F type frame *(mm)*	204U/234F
floor case width *(mm)*	170
grid width *(mm)*	190
max. adjustable height *(V max. mm)*	96 - 117
case height *(mm)*	96
lengths *(L cm)*	800 - 2 800, with the step of 400
exchanger height *(mm)*	65
exchanger width *(mm)*	75
exchanger effective length *(mm)*	L - 380
fans impeller diameter *(mm)*	40
connection to the heating system	2 x G 1/2" inner
case material	stainless steel AISI 304

Inox version • stainless steel unpainted case AISI 304, unpainted exchanger (dry environment only), standard design with type 9/20

Specification

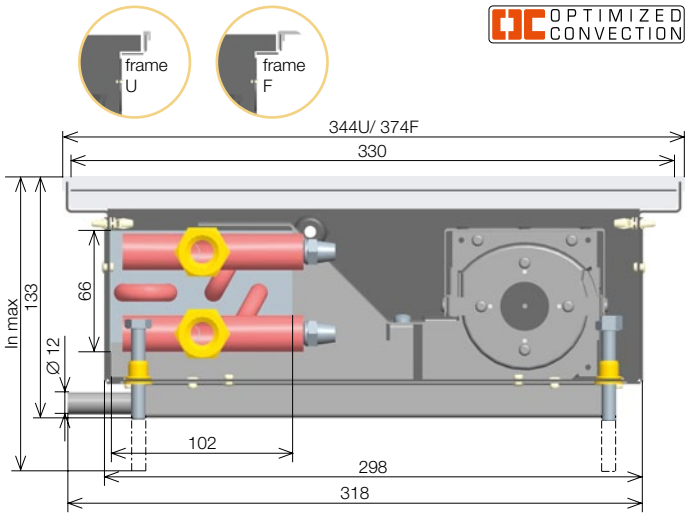
Width	cm	20																									
Depth	cm	9																									
Lengths	cm	80				120				160				200				240				280					
Noisiness - sound pressure 1m	dB(A)	0	16.1	23.6	30.5	0	16.4	24.1	30.9	0	16.7	24.4	31.1	0	17.2	25	31.4	0	17.4	25.1	31.7	0	17.7	25.3	31.7		
Max. intake/voltage DC	W/V	5.5 / 13.5				11 / 13.5				12 / 13.5				20 / 13.5				22.5 / 13.5				23.5 / 13.5					
Rpm		Off	1	2	3	Off	1	2	3	Off	1	2	3	Off	1	2	3	Off	1	2	3	Off	1	2	3		
Cooling output	t1 °C	hum. %	Cooling output [W]																								
6/12 °C	28	50	-	170	241	311	-	326	461	596	-	485	686	887	-	644	912	1180	-	803	1137	1470	-	962	1362	1760		
	26	50	-	151	214	276	-	289	409	529	-	430	609	787	-	572	810	1047	-	713	1009	1304	-	853	1208	1562		
	24	50	-	132	187	242	-	253	358	462	-	376	532	688	-	500	708	915	-	623	882	1140	-	746	1056	1366		
8/14 °C	28	50	-	151	214	276	-	289	409	529	-	430	609	787	-	572	810	1047	-	713	1009	1304	-	853	1208	1562		
	26	50	-	132	187	242	-	253	358	462	-	376	532	688	-	500	708	915	-	623	882	1140	-	746	1056	1366		
	24	50	-	113	160	207	-	217	307	396	-	322	456	590	-	429	607	784	-	534	756	978	-	640	906	1171		
10/15 °C	28	50	-	137	194	251	-	263	372	481	-	391	553	716	-	520	736	951	-	648	917	1186	-	776	1098	1420		
	26	50	-	118	168	217	-	227	321	415	-	337	478	617	-	448	635	821	-	559	791	1023	-	669	948	1225		
	24	50	-	100	141	182	-	191	270	349	-	284	402	519	-	377	534	690	-	470	665	860	-	563	797	1030		
Heat output	t1 °C		Heat output [W] / EN 442																								
75/65 °C	18		77	563	724	884	148	1078	1385	1692	220	1605	2061	2518	292	2134	2741	3348	364	2659	3416	4173	436	3185	4091	4997		
	20		**74**	**542**	**696**	**850**	**142**	**1037**	**1332**	**1627**	**211**	**1544**	**1983**	**2422**	**281**	**2053**	**2636**	**3220**	**350**	**2558**	**3285**	**4013**	**419**	**3063**	**3934**	**4806**		
	22		71	520	668	816	136	996	1279	1562	203	1482	1904	2325	270	1971	2532	3092	336	2456	3155	3853	403	2941	3778	4615		
70/55 °C	18		66	483	620	757	126	924	1186	1449	188	1375	1766	2157	250	1828	2348	2868	312	2278	2926	3574	374	2728	3504	4280		
	20		63	461	592	723	121	882	1133	1384	180	1313	1687	2060	239	1746	2243	2740	298	2176	2795	3414	357	2606	3347	4089		
	22		60	439	564	690	115	841	1080	1320	171	1252	1608	1964	228	1665	2138	2612	284	2074	2665	3255	340	2484	3191	3898		
55/45 °C	18		48	348	447	546	91	665	855	1044	136	990	1272	1554	180	1317	1692	2067	225	1641	2108	2575	269	1966	2525	3084		
	20		45	326	419	512	85	624	802	979	127	929	1193	1457	169	1235	1587	1938	211	1539	1977	2415	252	1843	2368	2892		
	22		42	305	391	478	80	583	749	914	119	867	1114	1361	158	1153	1482	1810	197	1437	1846	2255	236	1721	2211	2701		

- temperature exponent m = 0.994

Listed cooling performance SENSITIV. Cooling performances for other operating conditions on request.
** SENSITIV – cooling power actually delivered for cooling air.*
Correction factor page 61 • Assembly page 68 • Regulation page 80 • Floor grids page 18

Floor convector with forced convection for heating or cooling
Licon PKIOC 13/34

- used for heating or cooling
- high heating and cooling output
- intended for two-pipe systems
- stainless-steel case for condensate drain
- controls possible through BMS
- can be ordered in Economic, Exclusive or Inox versions
- the convector use in for dry environment only



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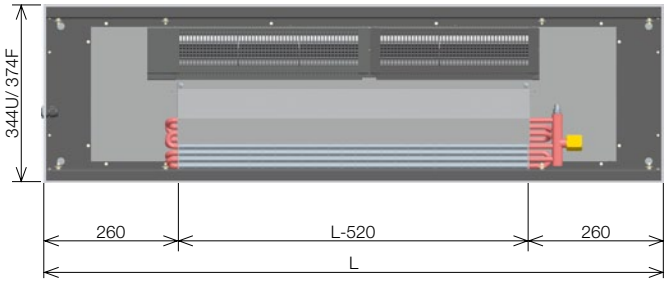

Specifications

width including the U/F type frame *(mm)*	344U/ 374F
floor case width *(mm)*	298
grid width *(mm)*	330
max. adjustable height *(V max. mm)*	133 - 160
case height *(mm)*	133
lengths *(L cm)*	1 200, 1 500, 2 000, 2 500, 3 000
exchanger height *(mm)*	66
exchanger width *(mm)*	102
exchanger effective length *(mm)*	L - 520
fans impeller diameter *(mm)*	60
connection to the heating system	2 x G 1/2" inner
case material	galv. steel, stainless steel 304, 316

Version Economic • black coated galvanized steel with inner stainless steel case AISI 316, heat exchanger without surface finish
Version Exclusive • black coated steel case with inner stainless steel case AISI 316, black coated exchanger *
Varianta Inox • unpainted stainless steel case AISI 304 with inner stainless steel case AISI 316, unpainted exchanger (dry environment only) *

** custom-made design*

Specification

Width	cm	34																			
Depth	cm	13																			
Lengths	cm	120				150				200				250				300			
Noisiness - sound pressure 1m	dB(A)	0	28.6	33.1	39.3	0	28.9	33.5	39.8	0	29.3	34	40.4	0	29.6	34.4	40.9	0	29.9	34.8	41.4
Max. intake/voltage DC	W/V	9.5 / 13.5				14 / 13.5				18.5 / 13.5				23 / 13.5				27.5 / 13.5			
Rpm		Off	1	2	3	Off	1	2	3	Off	1	2	3	Off	1	2	3	Off	1	2	3
Cooling output	t1 °C	hum. %	Cooling output [W]																		
6/12 °C	28	50	-	542	772	1003	-	781	1113	1446	-	1179	1681	2183	-	1577	2249	2921	-	1975	2817	3658
	26	50	-	481	685	890	-	693	988	1283	-	1046	1492	1937	-	1399	1995	2591	-	1753	2499	3246
	24	50	-	420	599	778	-	605	863	1121	-	914	1304	1693	-	1223	1744	2265	-	1532	2185	2837
8/14 °C	28	50	-	481	685	890	-	693	988	1283	-	1046	1492	1937	-	1399	1995	2591	-	1753	2499	3246
	26	50	-	420	599	778	-	605	863	1121	-	914	1304	1693	-	1223	1744	2265	-	1532	2185	2837
	24	50	-	360	514	667	-	519	740	961	-	784	1118	1452	-	1049	1495	1942	-	1314	1873	2433
10/15 °C	28	50	-	437	623	809	-	630	898	1166	-	951	1356	1761	-	1272	1814	2356	-	1593	2272	2950
	26	50	-	377	537	698	-	543	775	1006	-	820	1170	1519	-	1098	1565	2032	-	1375	1960	2546
	24	50	-	317	452	587	-	457	651	846	-	690	984	1278	-	923	1316	1709	-	1156	1648	2141
Heat output	t1 °C		Heat output [W] / EN 442																		
75/65 °C	18		239	1794	2320	2847	345	2585	3344	4103	520	3904	5050	6196	696	5222	6756	8289	872	6541	8462	10383
	20		**230**	**1725**	**2232**	**2738**	**331**	**2486**	**3216**	**3946**	**501**	**3754**	**4857**	**5959**	**670**	**5023**	**6498**	**7973**	**839**	**6291**	**8138**	**9986**
	22		221	1656	2143	2629	318	2387	3088	3789	481	3605	4664	5722	643	4823	6239	7656	805	6041	7815	9589
70/55 °C	18		205	1536	1987	2439	295	2214	2864	3514	446	3344	4326	5307	596	4473	5787	7101	747	5603	7248	8894
	20		196	1468	1899	2330	282	2115	2736	3357	426	3194	4132	5070	570	4273	5528	6783	714	5353	6924	8496
	22		187	1399	1810	2221	269	2016	2608	3200	406	3045	3939	4833	543	4074	5270	6466	680	5102	6600	8099
55/45 °C	18		148	1107	1432	1757	213	1595	2064	2532	321	2409	3117	3824	430	3223	4170	5116	538	4037	5223	6408
	20		138	1038	1343	1648	199	1496	1936	2375	301	2260	2923	3587	403	3023	3911	4798	505	3786	4898	6010
	22		129	969	1254	1539	186	1397	1807	2217	281	2110	2729	3349	376	2823	3651	4480	471	3535	4573	5612

- temperature exponent m = 0.994

Listed cooling performance SENSITIV. Cooling performances for other operating conditions on request.
** SENSITIV – cooling power actually delivered for cooling air.*

Correction factor page 61 • Assembly page 68 • Regulation page 80 • Floor grids page 18

Correction factor kt for a variant temperature difference Δt (K)

PKIOC 9/20, 13/34

Δt (K)	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
kt	0.362	0.382	0.402	0.422	0.442	0.462	0.482	0.502	0.522	0.542	0.562	0.582	0.602	0.622	0.642	0.662

Δt (K)	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
kt	0.682	0.701	0.721	0.741	0.761	0.781	0.801	0.821	0.841	0.861	0.881	0.901	0.920	0.940	0.960	0.980

Δt (K)	50	51	52	53	54	55	56	57	58	59	60
kt	1.000	1.020	1.040	1.060	1.080	1.099	1.119	1.139	1.159	1.179	1.199

- temperature exponent m = 0.994

Weights and water volumes

Type	9/20	13/34
steel kg/linear meter	–	13,2
stainless steel kg/linear meter	7,7	10,9
l/1 linear meter	0,5	0,5

The listed weights are without a packaging.

Delivery content and selectable specifications

Standard delivery contains

- galvanized steel case, surface finish RAL 9005 – black
- inner case (stainless steel AISI 316)
- Al/Cu heat exchanger with low water content and air vent
- set of low-energy fans
- connecting terminal (F Box)
- 2 temperature switches (heating, cooling)
- side cover metal sheets in colour
- anodized Al frame, U profile, in the natural aluminium colour
- fixation anchors for fastening the convector to the floor
- a pair of stainless-steel elastic hoses for easy connection
- sololit cover plate protecting the heat exchanger from dust and dirt on building site
- 25 mm height adjustment set-screws to compensate for the floor unevenness
- the unit is packed in a durable packaging and with istallation manual

Optional accessories for complete finish

- Execution Exclusive or Inox
- colour of the anodized Al frame – natural aluminium, light and dark bronze for F profile or light or dark bronze in the U profile, see sketch page 23
- black paint of the heat exchanger
- shut off valve, thermostatic valve head or an actuator
- covering plate with increased rigidity
- case with noise-absorbing material (reduction of noisiness by 1 to 3 dB) see page 86

Note:

- Standard delivery is without regulation.
  Regulation must be ordered separately and according to technical parameters.
- Electrical regulation and regulation elements see page 80
- Regulation is identical for all OC system radiators

Ordering codes
Convectors PKIOC

Case type – water supply location
P on the right (looking out of room)
P on the left (looking out of room)*
Convector case's face finish
0 without lowering of faces
1 supply side face lowering *
2 face lowering on opposite side of the supply *
3 lowering of both faces *

Elements of electrical regulation in a converter
R1 standard

				length		depth		width								
Economic	black steel case [1] /unpainted exchanger	PKIOC	-	...	/	...	/	..	-	1	1	U	10	P0	-	R1
Exclusive	black steel case [1] /black exchanger	PKIOC	-	...	/	...	/	..	-	1	5	U	10	P0	-	R1
Inox	stainless steel case/unpainted exchanger *	PKIOC	-	...	/	...	/	..	-	5	1	U	10	P0	-	R1

[1] applies only to PKIOC 13/34
** custom-made design*

Floor convectors with forced convection for heating or cooling Licon PKIOC

Frame type
N not fitted with a frame *
U U profile
F F profile *

Frame finish
00 not fitted with a frame *
10 aluminium/silver eloxal coat
12 aluminium/bronze eloxal coat *
13 aluminium/light bronze eloxal coat *

Ordering example

PKIOC, 150 length, 9 depth, 20 width, U shape frame, silver elxal coat

(standard only in Inox version (stainless steel AISI 304, unpainted exchanger)

Ordering code – PKIOC-150/9/20-51U10P0-R1

If the order does not include the specifications of the decorative frame, case and heat exchanger the radiator will be manufactured in the standard finish:
9/20 Inox (stainless steel AISI 304 and unpaited exchanger)
13/34 Economic (black coated steel case and unpainted exchanger)

Correction factor page 61 • Assembly page 68 • Regulation page 80 • Floor grids page 18