Licon FK • FKB

FACADE CONVECTORS
natural convection

Facade convectors are ideal and effective solution for installations in buildings with large glass walls, where the transmission of cold in winter season considerably affect the interior microclimate. Novelty in the heat loss solution will enable the architects and designers to realize their ideas in the design and operation of the entire building, including heating.

Facade convectors with natural convection
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The facade convectors Licon FK by their direct location on the facade prevent penetration of the cold air into the interior space. The warm air rising from the convectors mixes with the cold air and creates a thermal screen, which provides greater thermal comfort of the indoor space and prevents condensation forming on the glass surface.

- design freedom
- high-perfomance Al/Cu heat exchangers
- excellent controllability and fast heating start-up
- without heat transfer to the external facade
- additional space for placement of other through-running distribution

Standard delivery contains

- sheathing of RAL 9007 coated zinc galvanised steel
- heat exchanger with low water content and uniquely shaped lamellas air vent
- connecting material
- the set is packed in durable packaging and contains an installation instructions

Specification

depth *(mm)*	56
width *(mm)*	120, 150, 180
length *(mm)*	800 up to 3 000 (at 200 mm steps)
max. working pressure *(bar)*	12
max. working temperature	110 °C
connecting thread	inner G 1/2"

Version Economic • grey coated sheathing (RAL 9007) and unpainted exchanger
Version Exclusive • grey coated sheathing (RAL 9007) and coated exchanger (RAL 9007)
Version InPool (FKB) • sheathing of the stainless steel AISI 316 and unpainted exchanger

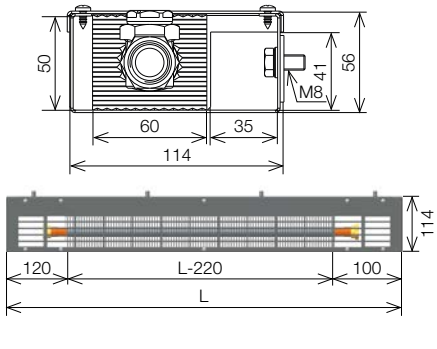
Selectable specification

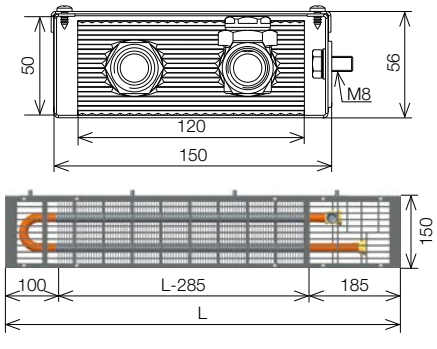
- version Exclusive or InPool (using stainless steel AISI 316)
- coated heat exchanger
- if more that 5 pieces are ordered, another colour shade may be ordered according to the RAL scale (the change must be consulted with the manufacturer)
- possibility to order thermoelectric drive or thermostatic valve head and shut-off valves

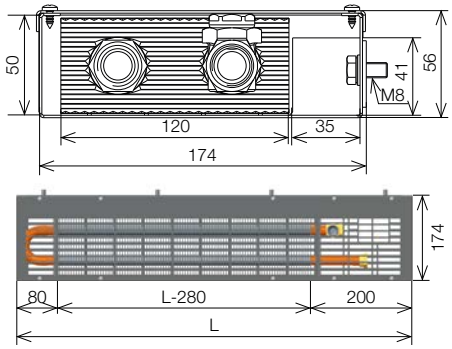
Elements' sections

Overview of manufactured types

FK-xxx/6/12-J1	FK-xxx/6/15-J2	FK-xxx/6/18-J2
height 5.6 cm	height 5.6 cm	height 5.6 cm
width 11.4 cm	width 15 cm	width 17.4 cm
with optional integrated piping run	without integrated piping run	with optional integrated piping run







Heat outputs

Heat outputs (W) at t1/t2/ti = at 75/65/20 °C (Δt=50) and 65/55/20 °C (Δt=40) / EN 442

Height *(cm)*	Width *(cm)*	Δt	Length L *(cm)*											
			80	100	120	140	160	180	200	220	240	260	280	300
Height 6	12	Δt 50	154	202	251	300	349	397	446	495	543	592	641	690
		Δt 40	115	151	188	224	261	297	334	370	407	443	480	516
Height 6	15	Δt 50	305	401	498	595	692	788	885	982	1078	1175	1272	1369
		Δt 40	228	300	373	445	517	590	662	735	807	879	952	1024
Height 6	18	Δt 50	305	401	498	595	692	788	885	982	1078	1175	1272	1369
		Δt 40	228	300	373	445	517	590	662	735	807	879	952	1024

Heat outputs of the widths of 15 and 18 are the same due to using the same exchanger OR-J2. In addition the width of 18 comprises space for piping.

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

Δt (K)	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
kt	0.265	0.284	0.304	0.324	0.344	0.364	0.385	0.406	0.427	0.449	0.471	0.493	0.515	0.537	0.560	0.583

Δt (K)	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
kt	0.606	0.629	0.652	0.676	0.700	0.724	0.748	0.773	0.797	0.822	0.847	0.872	0.897	0.923	0.948	0.974

Δt (K)	50	51	52	53	54	55	56	57	58	59	60
kt	1.000	1.026	1.052	1.079	1.105	1.132	1.159	1.186	1.213	1.240	1.267

- temperature exponent m = 1.3

See the formula and example of conversion to a variant temperature difference on page 77.

Weights and water volumes of facade convectors

Type	6/12	6/15	6/18
kg/linear meter	3.9	4.8	5.3
l/1 linear meter	0.2	0.42	0.42

The listed weights are without a packaging.

Facade convectors installation
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Installation on horizontal crosspiece, between vertical supports

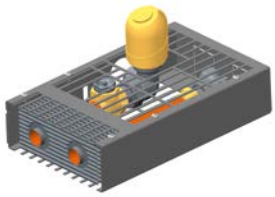
Installation on vertical support

Facade convectors installation technique

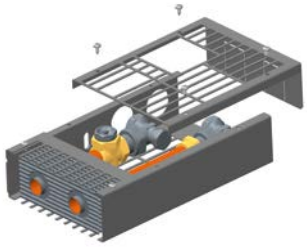
Main load bearing U shape part is fixed to the facade's carrying elements. Then the heat exchanger is inserted and connected to the heating system. Last step consists of positioning the top part and screwing of all parts together. Subject to agreement it is possible to make design modifications for the particular installation.

Convector FK assembly

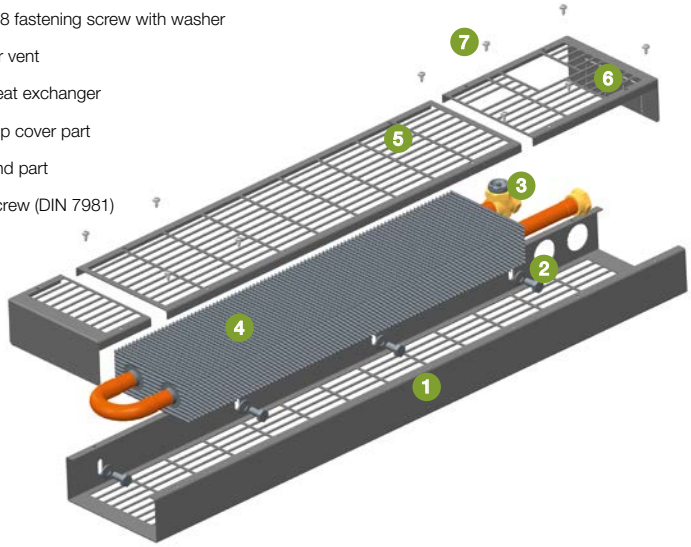
Connections with thermostatic valve and thermoelectric drive



Connections with shut-off valve



1. carrier part
2. M8 fastening screw with washer
3. air vent
4. heat exchanger
5. top cover part
6. end part
7. screw (DIN 7981)



Ordering codes
Facade convectors FK • FKB

				length		height		width		On facade installation technique		
Economic	grey steel/unpainted exchanger	FK	-	...	/	...	/	..	-	1	A	1
Exclusive*	grey steel/grey coated exchanger	FK	-	...	/	...	/	..	-	1	A	5
InPool*	grey coated stainless steel for humid environment/unpainted exchanger	FKB	-	...	/	...	/	..	-	3	A	1

** custom-made design*

Facade convectors Licon FK
Facade pool convectors Licon FKB

Sheathing material
1 steel, grey coat RAL 9007
3 stainless steel (for humid environment), grey coat RAL 9007*

On facade installation technique
A on horizontal crosspiece, between vertical supports
B on vertical support

Exchanger material
1 unpainted
5 coated