

KORABASE

Heat exchangers



NEW!

MORE THAN 50 YEARS

QUALITY – COMPLEXITY – INNOVATION – DESIGN

To have a reliable partner for solving with both large and small projects in the area of heating is not a question of price. We highly appreciate the close cooperation with all our customers. You are an endless source of inspiration for us. You make purpose to our work, and the quality of our products continuously increases, thanks to your eye for details.

SOLUTION FOR ANY TYPE OF BUILDING

A large shopping centre project or a small family house? Standard radiator or design convector that heats, heats up or cools down? Is it necessary to install the heating unit in an atypical manner? We satisfy any demand. Just make your selection.

ECONOMY – ECOLOGY – EFFICIENCY

Heating and recuperation units made by KORADO respect the need to reduce the energy demand of buildings. The performance of our units is optimal; air flow is superior, and power consumption is lower.



Convectors LICON HEAT s.r.o. are successfully distributed all over the world. They are manufactured in the Liberec production plant of LICON HEAT s.r.o. using the latest production technologies.

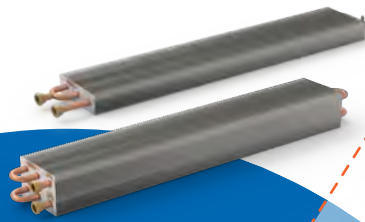
The headquarters of KORADO, a.s. is a modern European plant manufacturing radiators and heating units. Its technological equipment and layout on the area of 30,000 m² allows KORADO, a.s. further growth and development.



FREESTANDING AND
BENCH CONVECTORS
KORALINE



HEAT
EXCHANGERS
KORABASE



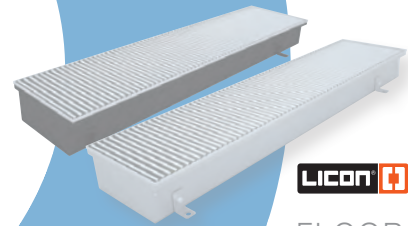
WALL-MOUNTED
CONVECTORS
KORAWALL



STEEL PANEL
RADIATORS
RADIK



FLOOR
CONVECTORS
KORAFLEX



DESIGN RADIATORS
KORATHERM



TOWEL RAIL RADIATORS
KORALUX



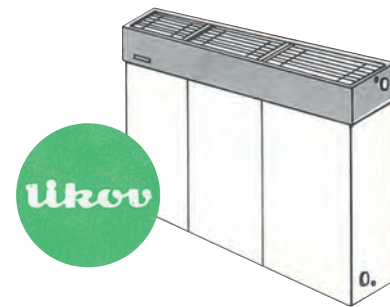
VENTILATION
UNITS
**KORASMART
KORAVENT**

PRODUCT PORTFOLIO

The very wide portfolio of products enables complex design schemes suitable for an entire building or an individual room, which brings maximum compatibility, design comfort and service, individual solutions and also financial savings.

Quality with more than 50 years of experience

In 1968, **the production of steel convectors** under the LIKOV brand started in Liberec. Convectors were sold under the name UNIKONTHERM and they immediately secured their market position.



1968



1995

The year 1995 was marked by **modernisation of the product portfolio**, which also included **initiation of the production of floor convectors** that significantly enriched the range of design solutions for any customer.

2004 then witnessed the complete transformation of the company. The most apparent was the change of name from the original LIKOV **to LICON HEAT s.r.o.** Also a complete product innovation took place; **a new exchanger was released**, and a new business strategy for **export was initiated**.

2004



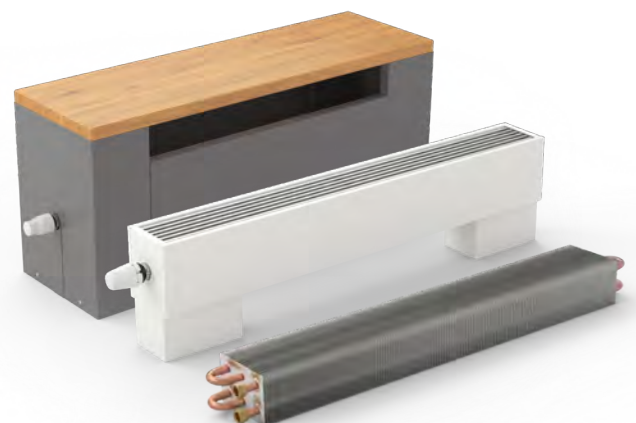
2013



The essential year in the company's development was 2013, when **LICON HEAT became part of the KORADO group** and thus expanded its range of products. Thanks to this acquisition, LICON convectors have reached many other customers from all over the world.

2018

The launch of the **new generation of modern convectors** and significant expansion of the product portfolio.



What next? We will continue improving products using state-of-the-art technologies along with our experience and know-how gained over 50 years of convectors production.

Legend of graphic symbols

Functions and features of convectors

- 

Natural convection
- 

Heating
- 

Higher output
- 

Environment-friendly

Design of convectors

- 

Basic design of convectors
- 

Convectors with an accent on design or technical layout

Why choose our convectors?



Ideal for any interior...

The range includes floor, wall-mounted, free-standing convectors and also special units that can be installed in an unobtrusive manner even in premises furnished with period furniture.



Broad product line...

You are able to select a design for any interior, for dry and wet environment, swimming-pool area, convectors that heat and cool or a whole range of design solutions.



Heating efficiency...

Convectors begin to heat quickly, are highly efficient with low power consumption. Their operation is economical and ecological.



High technical level...

They are suitable for heating systems with all types of heat sources (heat pumps, gas, electricity, solar heat, wood and biomass).

Simple assembly, disassembly and maintenance.

Did you know that...

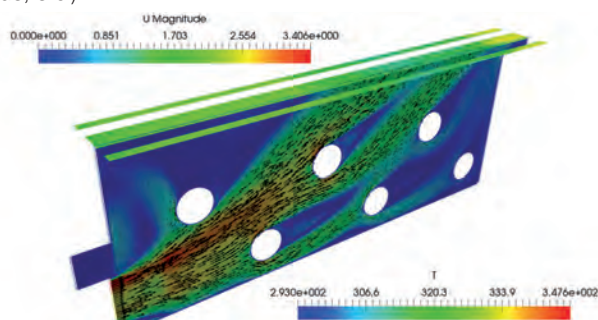
- KORADO group has its own research and development centre, including test chambers for measuring heat outputs under European standard EN 442, and for measuring heat and cooling output under European standard EN 16430.



- The production runs on state-of-the-art machines controlled according to the principle of the so-called lean production. Products are processed in the shortest possible time while maintaining maximum quality of both their design and materials.



- We use the latest methods of research and development and collaborate with top experts in this field in the academic sphere (Technical University in Liberec, Czech Technical University in Prague, etc.).



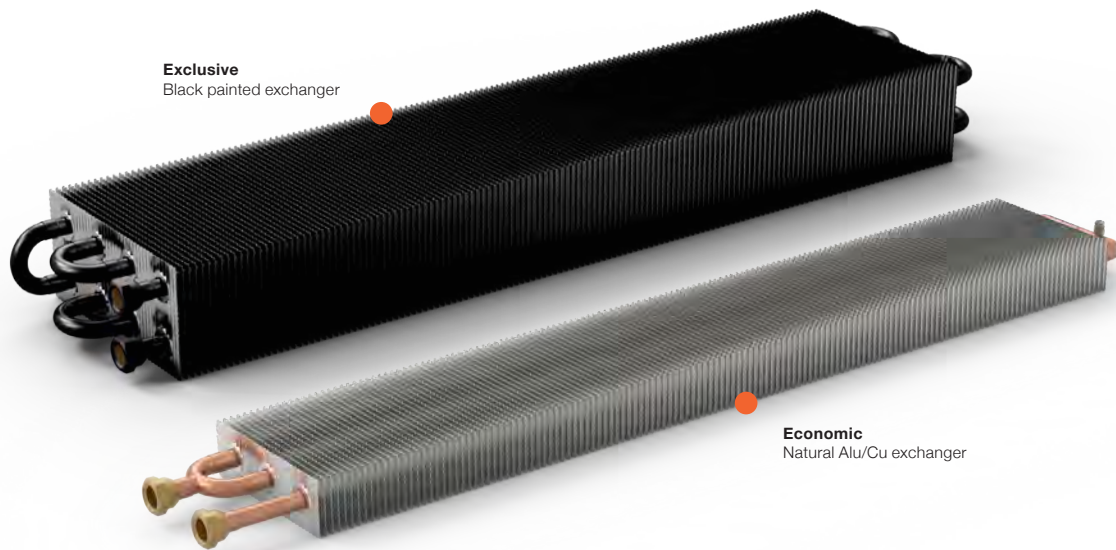
- We are a holder of the quality management system certificate under ISO 9001. Products are manufactured and tested under ČSN EN 442 and ČSN EN 16430. By using the CE mark, the producer confirms that LICON convectors conform to the characteristics stated in the Declaration of Performance issued in accordance with the Regulation of the EP and Council (EC) No. 305/2011. This conformity has been confirmed by the notification body No. 1015, Strojirenský zkušební ústav s.p. Brno.





Customized solution satisfying even the most challenging requirements of the interior design.

KORABASE Exclusive
KORABASE Economic



Exclusive
Black painted exchanger

Economic
Natural Alu/Cu exchanger



HEAT EXCHANGERS

KORABASE Exclusive KORABASE Economic

The heat exchanger is a heart of convectors. Nevertheless, it offers many other options of use. Imagine you want your heating bodies to virtually merge in the interior. Build the exchangers into materials which form the whole interior compactly.

KORABASE Exclusive, Economic

Technical specification

Height of the exchanger	50, 100 mm
Width	50, 100, 150, 200 mm
Length	800, 1 000, 1 200, 1 400, 1 600, 1 800, 2 000, 2 200, 2 400, 2 600, 2 800, 3 000 mm
Output	according to the height of the exchanger covering, see tables of outputs and correction factors to the different box height
Maximum operating pressure	1,2 MPa
Maximum operating temperature	110 °C
Connecting thread	Internal G 1/2"
Ordering code	see page 12–13

KORABASE Exclusive

Black painted exchanger

Description

The KORABASE heat exchanger with low water content is suitable for an individual installation especially at places where the interior compactness in terms of the used materials is required. As the subject to maintaining certain conditions KORABASE heat exchangers can be covered by any material for their smooth building into the space. To achieve the best function and safety the basic requirements how to cover the heat exchanger is listed in assembly instructions. The exchanger is made of copper tubes and aluminium lamellas.

Standard supply content

- Al/Cu heat exchanger with low water content, air vent and uniquely shaped lamellas for higher heat output
- heat exchanger installation instructions
- the set is packed in the solid PVC foil with protective edge covers

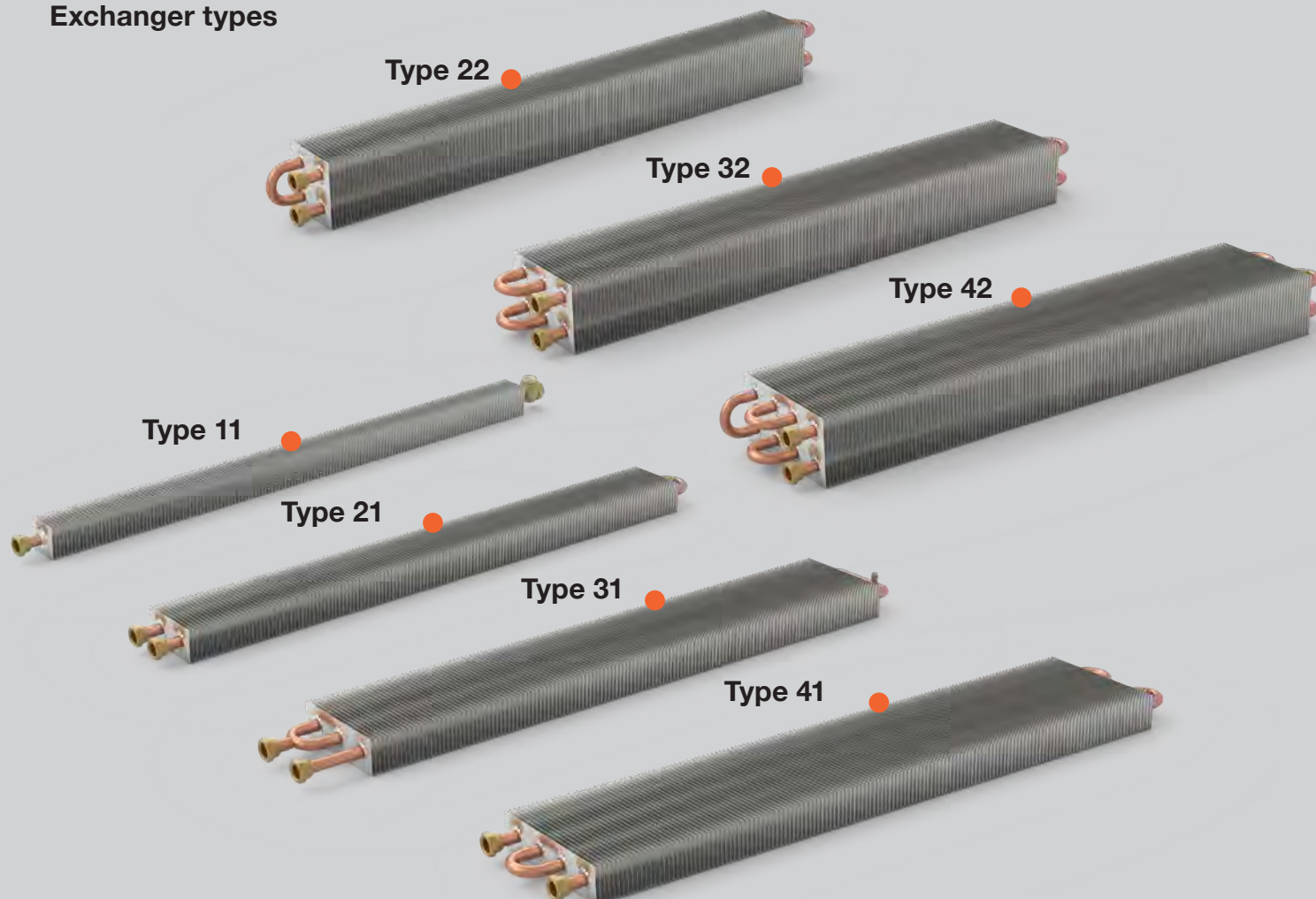
Optional accessories

- wall and floor brackets for mounting heat exchanger (see page 12)

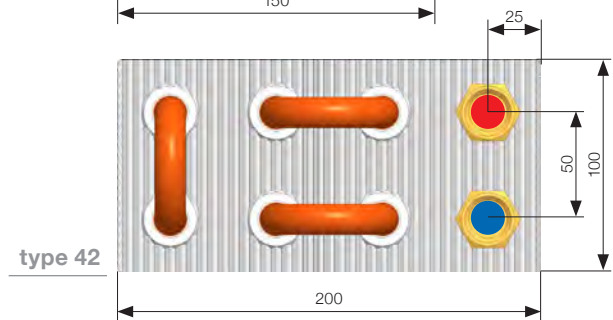
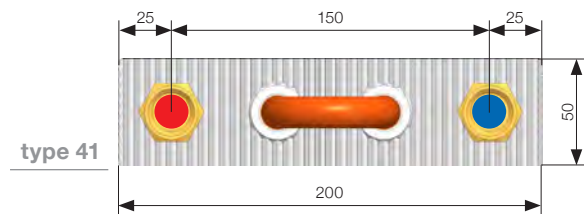
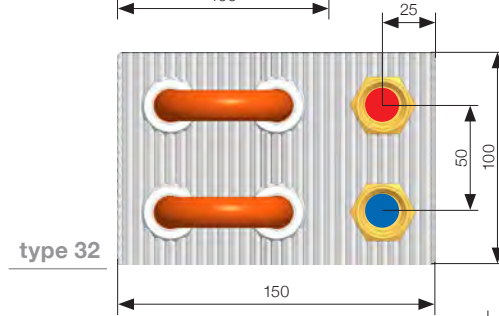
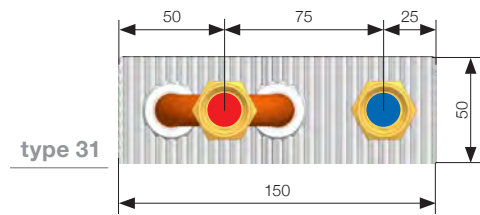
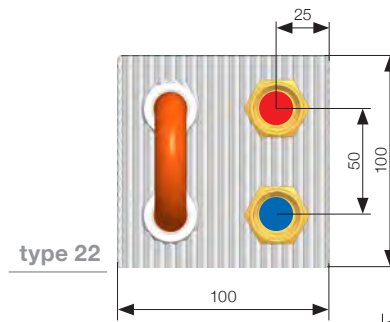
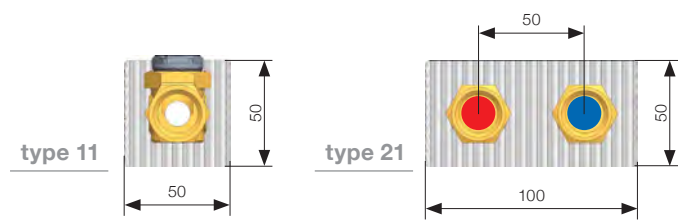
KORABASE Economic

Natura Alu/Cu exchanger.

Exchanger types



OVERVIEW OF TYPES



HEAT OUTPUTS

Heat outputs [W] at $t_1/t_2/t_1 =$ at 75/65/20 °C ($\Delta t=50$), 65/55/20 °C ($\Delta t=40$) and 55/45/20 °C ($\Delta t=30$)/EN 442

Outputs in the table are specified for the convector box height 200 mm

KORABASE Exclusive, KORABASE Economic								
Length	$t_1/t_2/t_1$ [°C]	BP 11	BV/BP 21	BV/BP 22	BV/BP 31	BV/BP 32	BV/BP 41	BV/BP 42
		Width x height 50 x 50	Width x height 100 x 50	Width x height 100 x 100	Width x height 150 x 50	Width x height 150 x 100	Width x height 200 x 50	Width x height 200 x 100
800	75/65/20	222	478	622	669	969	989	1314
	65/55/20	164	356	453	499	705	744	958
	55/45/20	112	244	302	342	468	516	638
1 000	75/65/20	285	613	800	870	1248	1274	1692
	65/55/20	211	457	584	648	908	959	1234
	55/45/20	143	313	388	444	602	665	822
1 200	75/65/20	348	748	979	1070	1526	1558	2070
	65/55/20	258	558	714	798	1110	1173	1510
	55/45/20	175	382	475	546	737	813	1005
1 400	75/65/20	411	883	1158	1271	1805	1843	2448
	65/55/20	305	659	845	947	1313	1387	1786
	55/45/20	207	451	562	648	871	962	1189
1 600	75/65/20	475	1019	1337	1471	2084	2128	2826
	65/55/20	351	759	975	1096	1516	1601	2062
	55/45/20	239	520	649	751	1006	1110	1373
1 800	75/65/20	538	1154	1516	1672	2363	2412	3204
	65/55/20	398	860	1105	1246	1719	1816	2337
	55/45/20	270	589	736	853	1140	1259	1556
2 000	75/65/20	601	1289	1695	1872	2641	2697	3582
	65/55/20	445	961	1236	1395	1921	2030	2613
	55/45/20	302	658	823	955	1275	1407	1740
2 200	75/65/20	664	1424	1874	2073	2920	2981	3961
	65/55/20	492	1062	1366	1545	2124	2244	2889
	55/45/20	334	727	909	1057	1409	1556	1924
2 400	75/65/20	727	1559	2052	2273	3199	3266	4339
	65/55/20	539	1163	1497	1694	2327	2458	3165
	55/45/20	366	796	996	1160	1544	1704	2107
2 600	75/65/20	790	1695	2231	2473	3478	3551	4717
	65/55/20	585	1263	1627	1843	2530	2672	3441
	55/45/20	398	865	1083	1262	1678	1853	2291
2 800	75/65/20	853	1830	2410	2674	3757	3835	5095
	65/55/20	632	1364	1758	1993	2733	2887	3716
	55/45/20	429	934	1170	1364	1813	2001	2475
3 000	75/65/20	917	1965	2589	2874	4035	4120	5473
	65/55/20	679	1465	1888	2142	2935	3101	3992
	55/45/20	461	1003	1257	1466	1948	2150	2658
Temperature exponent n [-]		1,3452	1,3162	1,4151	1,3176	1,4262	1,2735	1,4137

Dimensions are specified in mm BV = korabase reversible connection method; BP = KORABASE continuous connection method.



An example of conversion for another height of convector box see page 18 or www.licon.cz

An example of the conversion to another temperature gradient see page 18 or www.licon.cz

BASIC TECHNICAL PARAMETERS

KORABASE Exclusive, KORABASE Economic							
Type of exchanger	11	21	31	41	22	32	42
Temperature exponent n [-]	1,3452	1,3162	1,3176	1,2735	1,4151	1,4262	1,4137
K_M [-]	2,4594	5,9134	8,4942	14,5964	5,2713	7,8670	11,2041
Characteristic equation	$\varphi = K_M \cdot \Delta T^n$						
Convector weight [kg/m]	1,087	1,884	2,699	3,637	3,604	5,368	7,131
Water volume [l/m]	0,146	0,298	0,450	0,602	0,602	0,907	1,211
Effective length of exchanger [mm]	L-97	L-93	L-132	L-105	L-105	L-105	L-105

LIST OF BRACKETS

Floor brackets

- optional accessories
- as for the length of 1 800 mm and longer you have to order at least 3 pcs of stand brackets
- as a standard delivered black painted

Height of the floor bracket	75	125	75	125	
for type	11	11	21 and 22	21 and 22	
purchase order code	BVS-1-7	BVS-1-12	BVS-2-7	BVS-2-12	
Height of the floor bracket	75	125	75	125	
for type	31 and 32	31 and 32	41 and 42	41 and 42	
purchase order code	BVS-3-7	BVS-3-12	BVS-4-7	BVS-4-12	

Wall brackets

- optional accessories
- as for the length of 1 800 mm and you have to order at least 3 pcs of wall brackets
- as a standard delivered in RAL 9016

for type	11	21 and 22	31 and 32	41 and 42
purchase order code	BVK-1	BVK-2	BVK-3	BVK-4

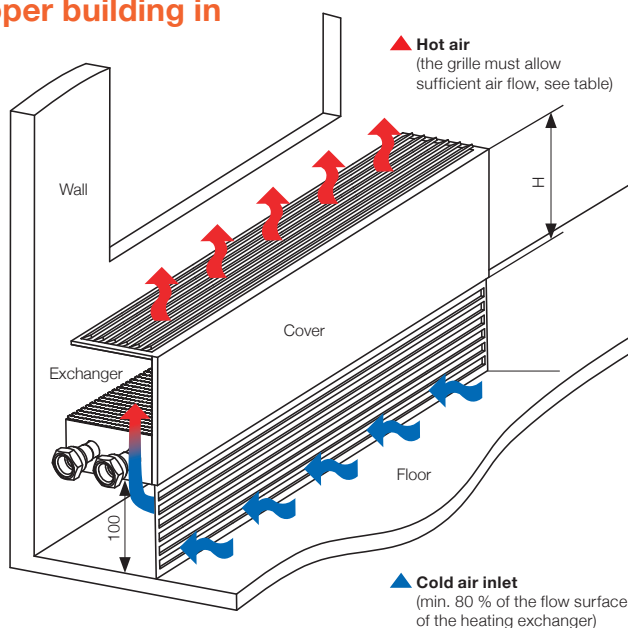
Dimensions are specified in mm.

ASSEMBLY

Installation instructions

For the proper operation and maximum output of the heat exchanger it is necessary to build a convector box sufficiently tight with the sufficiently permeable expiratory grill and the grill for the air inlet. The inlet grille size should make at least 80% of the flow surface of the heat exchanger.

Proper building in



We recommend mounting the exchanger on floor or wall brackets 10 cm above the final floor. For this purpose we offer 2 types of brackets. These may be in the floor execution (floor brackets) in heights of 7,5 and 12,5 cm or to be hung on the wall (wall brackets). The exchanger width determines the length of brackets (56,5 – 206,5 mm). Brackets are not a part of a standard delivery.

The heat output output of the exchanger depends on several main conditions: effective cover height, tightness of this cover (box), heated air input and flow area of the expiratory grille (see image). Generally, the higher the cover the higher heat output. The convector box and adjacent building structures must be resistant to the temperature created by the heat exchanger.

+ - x = **kH correction factor for the different H box height**

Correction factor	$t_1/t_2/t_1$	Box height H [mm]								
		200	250	300	350	400	450	500	550	600
kH	75/65/20	1,000	1,059	1,116	1,171	1,224	1,278	1,331	1,384	1,438

The box height H [mm] is measured from the lower edge of exchanger lamellas. Example: Conversion of the exchanger heat output Korabase 31, length 180 mm to the output in the box and height of 0,45 m. $Q = 1\,672 \times 1,278 = 2\,137\text{ W}$

Air outlet cover grille correction factor

% of the air inlet surface	> 75	60	50	40	30
correction factor	1,00	0,95	0,90	0,85	0,60

The air inlet surface is the flow area of the exchanger (width x length of the heating body) minus the area of the expiratory grille (all rates are given in %). The output of the respective convector is multiplied by the correction factor. Outputs of heat exchangers are measured including the expiratory grille, there fore it is not necessary to convert them further.

DATA FOR PURCHASE ORDER

KORABASE heat exchanger	Method of connection	Design	Length [cm]	Type	Surface finish
B	V = reversible P = continuous	E = Economic X = Exclusive	-	..	-0-
					00 39

Code example BVE-180-42-0-00

Economic heat exchanger, reversible, type 42 (4 horizontal and 2 vertical lines), length 1 800 mm, natural Alu/Cu colour.

Code example BPX-100-21-0-39

Exclusive heat exchanger, continuous, type 21 (2 horizontal and 1 vertical rows), length 1 000 mm, black painted.

PRESSURE LOSSES OF HEAT EXCHANGERS

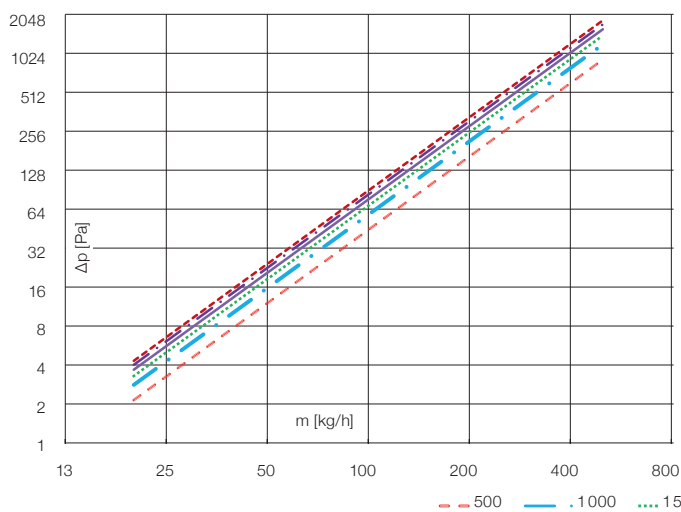
KORABASE type 11 – 50×50 mm (height/width)

Length L [mm]	Mass flow rate [kg/h]											
	20	40	80	100	150	200	250	300	350	400	450	500
	Exchanger pressure losses Δp [Pa]											
800	3	9	35	53	114	196	298	420	561	722	901	1098
1000	3	10	38	58	124	214	325	458	612	787	983	1198
1200	3	11	41	62	134	229	349	492	657	845	1055	1286
1400	3	12	43	66	142	244	371	522	698	898	1120	1366
1600	3	12	46	70	149	257	390	550	735	945	1180	1439
1800	4	13	48	73	156	269	409	576	770	990	1235	1506
2000	4	14	50	76	163	280	426	600	802	1031	1287	1569
2200	4	14	52	79	169	290	442	623	832	1070	1336	1629
2400	4	15	54	82	175	300	457	644	861	1107	1382	1685
2600	4	15	55	84	180	310	472	665	888	1142	1426	1738
2800	4	15	57	87	186	319	486	684	914	1176	1467	1789
3000	4	16	58	89	191	328	499	703	939	1208	1507	1838

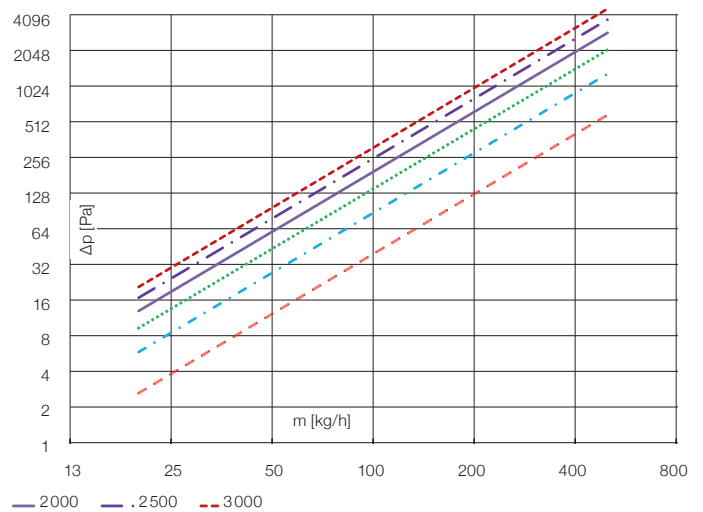
KORABASE type 21 – 100×50 mm (height/width)

Length L [mm]	Mass flow rate m [kg/h]											
	20	40	80	100	150	200	250	300	350	400	450	500
	Exchanger pressure losses Δp [Pa]											
800	5	14	46	67	133	216	314	426	552	691	842	1005
1000	6	19	60	87	172	279	406	551	714	893	1089	1300
1200	7	23	74	107	212	344	500	680	881	1102	1343	1604
1400	9	27	88	128	253	411	598	812	1052	1316	1604	1915
1600	10	32	103	149	295	479	697	947	1226	1535	1871	2233
1800	11	37	118	171	338	549	798	1084	1405	1758	2143	2558
2000	13	41	133	193	382	619	901	1224	1586	1985	2419	2887
2200	14	46	148	216	426	691	1005	1366	1770	2215	2700	3222
2400	16	51	164	238	471	764	1111	1510	1956	2448	2984	3562
2600	17	56	180	261	517	838	1219	1656	2145	2685	3272	3906
2800	19	61	196	285	563	912	1327	1803	2336	2924	3564	4254
3000	21	66	212	308	609	988	1437	1952	2529	3165	3858	4605

KORABASE type 11



KORABASE type 21



KORABASE type 31 – 150 × 50 mm (height/width)

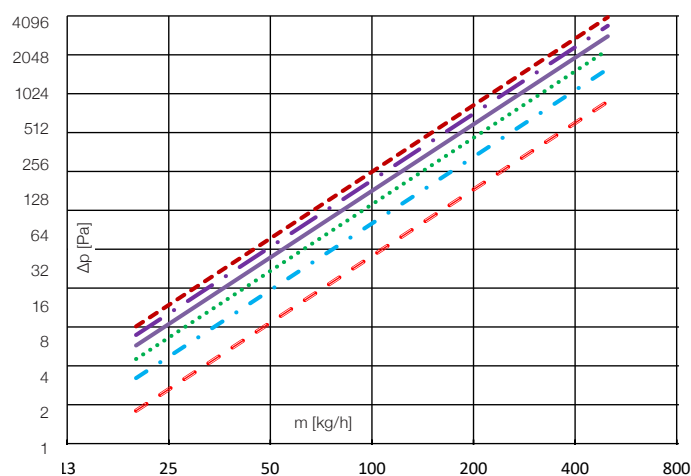
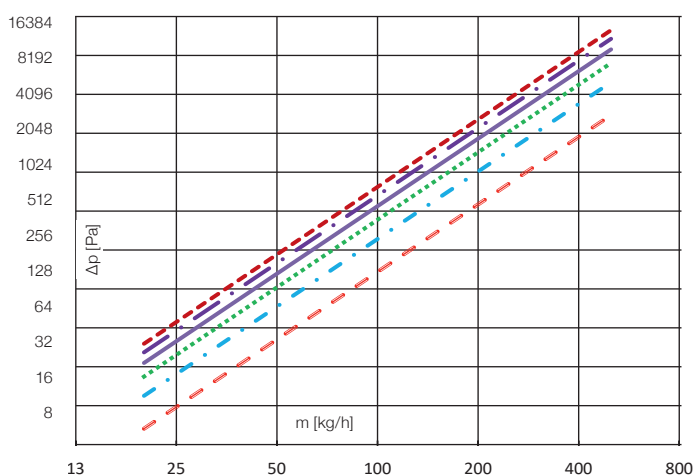
Length L [mm]	Mass flow rate m [kg/h]											
	20	40	80	100	150	200	250	300	350	400	450	500
	Exchanger pressure losses Δp [Pa]											
800	6	19	63	93	190	315	465	640	839	1060	1302	1566
1000	6	21	71	104	212	351	519	714	935	1181	1452	1746
1200	7	23	77	114	232	384	567	780	1022	1291	1587	1909
1400	7	25	83	123	250	414	611	841	1102	1392	1711	2058
1600	8	26	89	131	267	441	652	898	1176	1486	1826	2196
1800	8	28	94	139	282	467	691	951	1246	1574	1934	2326
2000	9	29	99	146	297	492	727	1001	1311	1657	2036	2449
2200	9	31	104	153	311	515	762	1049	1374	1736	2133	2566
2400	10	32	108	160	325	538	795	1094	1433	1811	2226	2677
2600	10	33	112	166	338	559	827	1138	1490	1883	2314	2783
2800	10	35	117	172	350	580	857	1180	1545	1952	2400	2886
3000	11	36	120	178	362	600	886	1220	1598	2019	2482	2985

KORABASE type 41 – 200 × 50 mm (height/width)

Length L [mm]	Mass flow rate m [kg/h]											
	20	40	80	100	150	200	250	300	350	400	450	500
	Exchanger pressure losses Δp [Pa]											
800	11	35	115	168	336	550	806	1102	1435	1803	2206	2643
1000	13	42	138	202	405	663	972	1329	1730	2175	2661	3187
1200	15	49	161	236	472	773	1133	1548	2016	2534	3100	3713
1400	17	56	183	268	538	880	1289	1762	2294	2884	3528	4226
1600	19	63	205	300	601	984	1442	1971	2566	3226	3947	4727
1800	21	69	226	331	664	1086	1592	2175	2833	3561	4356	5218
2000	23	75	247	362	725	1187	1739	2376	3095	3890	4759	5700
2200	25	82	268	392	785	1286	1884	2574	3352	4213	5155	6175
2400	27	88	288	422	845	1383	2027	2769	3606	4532	5546	6642
2600	29	94	308	451	904	1479	2167	2962	3856	4847	5931	7103
2800	31	100	328	480	962	1574	2306	3152	4104	5158	6311	7559
3000	32	106	347	509	1019	1668	2444	3339	4348	5466	6687	8010

KORABASE type 31

KORABASE type 41



--- 500 - - - 1000 ···· 1500 ——— 2000 ——— 2500 - - - 3000

PRESSURE LOSSES OF HEAT EXCHANGERS

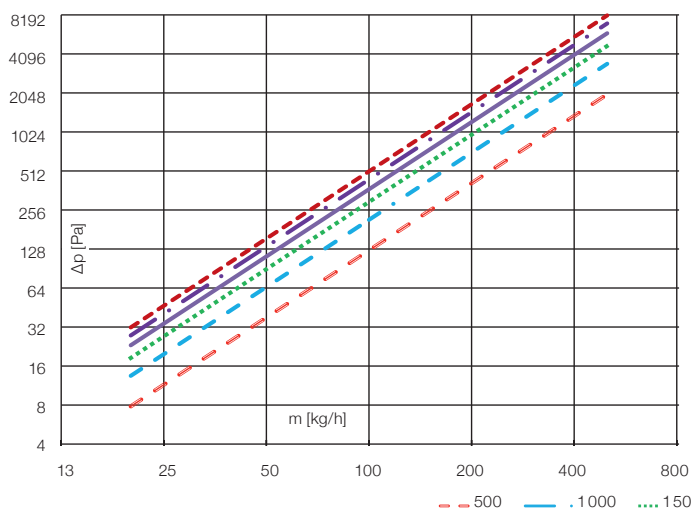
KORABASE type 22 – 100 × 100 mm (height/width)

Length L [mm]	Mass flow rate m [kg/h]											
	20	40	80	100	150	200	250	300	350	400	450	500
	Exchanger pressure losses Δp [Pa]											
800	11	37	123	180	363	595	874	1197	1561	1964	2406	2885
1000	13	44	146	215	432	709	1041	1425	1859	2339	2865	3436
1200	16	51	169	248	498	818	1201	1644	2144	2698	3305	3963
1400	18	58	190	280	562	923	1355	1855	2419	3044	3729	4471
1600	19	64	211	311	624	1024	1505	2059	2686	3380	4140	4964
1800	21	70	232	341	685	1123	1650	2258	2945	3707	4540	5443
2000	23	76	252	370	743	1220	1792	2453	3198	4025	4930	5911
2200	25	82	271	398	801	1315	1931	2643	3446	4337	5312	6369
2400	27	88	290	427	857	1407	2067	2829	3689	4643	5687	6818
2600	28	94	309	454	913	1498	2200	3012	3928	4943	6055	7259
2800	30	99	328	481	967	1588	2332	3192	4162	5238	6416	7693
3000	32	105	346	508	1021	1676	2461	3369	4393	5529	6773	8120

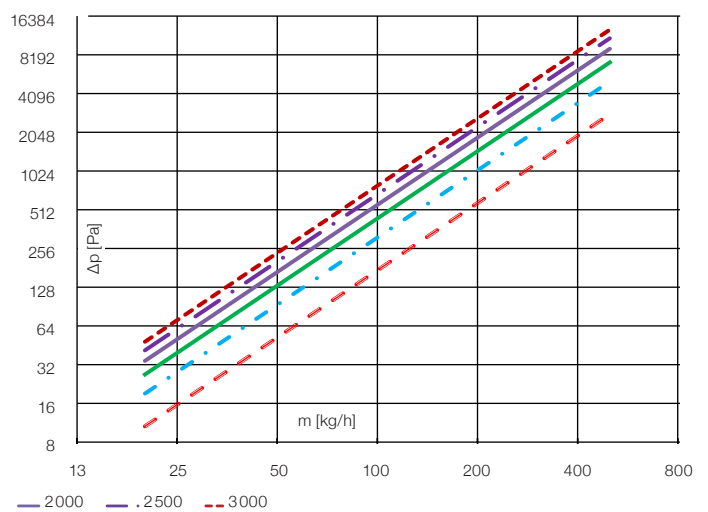
KORABASE type 32 – 150 × 100 mm (height/width)

Length L [mm]	Mass flow rate m [kg/h]											
	20	40	80	100	150	200	250	300	350	400	450	500
	Exchanger pressure losses Δp [Pa]											
800	16	53	175	258	521	858	1264	1734	2266	2856	3504	4207
1000	19	63	211	311	629	1036	1526	2094	2736	3449	4231	5080
1200	22	74	246	363	734	1208	1780	2442	3191	4023	4936	5926
1400	25	84	281	413	836	1377	2027	2782	3635	4583	5622	6750
1600	28	94	314	463	935	1541	2270	3114	4069	5130	6293	7556
1800	31	104	347	511	1033	1702	2507	3440	4495	5667	6952	8346
2000	34	114	379	559	1129	1861	2740	3760	4913	6194	7599	9123
2200	37	124	411	606	1224	2017	2970	4075	5325	6714	8236	9888
2400	40	133	443	652	1317	2170	3197	4386	5731	7226	8864	10642
2600	43	142	474	697	1410	2322	3420	4693	6132	7731	9484	11387
2800	45	151	504	743	1501	2472	3641	4996	6528	8231	10097	12122
3000	48	161	534	787	1591	2621	3860	5296	6920	8725	10703	12850

KORABASE type 22



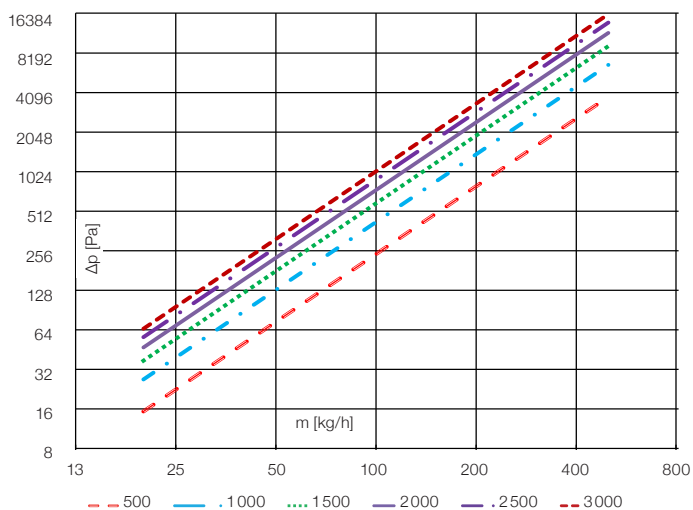
KORABASE type 32



KORABASE type 42 – 200 × 100 mm (height/width)

Length L [mm]	Mass flow rate m [kg/h]											
	20	40	80	100	150	200	250	300	350	400	450	500
	Exchanger pressure losses Δp [Pa]											
800	22	73	241	352	706	1155	1692	2311	3009	3782	4627	5541
1000	27	88	288	422	845	1383	2026	2768	3604	4530	5542	6637
1200	31	102	334	489	979	1603	2348	3208	4177	5249	6422	7692
1400	35	115	378	554	1109	1815	2660	3634	4731	5946	7275	8713
1600	39	129	421	617	1236	2022	2963	4048	5271	6624	8104	9706
1800	43	141	463	679	1359	2224	3259	4453	5797	7286	8914	10676
2000	47	154	505	739	1480	2422	3549	4849	6313	7934	9707	11625
2200	51	166	545	799	1599	2616	3833	5237	6819	8570	10484	12556
2400	54	179	585	857	1715	2807	4112	5619	7316	9194	11248	13472
2600	58	190	624	914	1830	2994	4387	5995	7805	9809	12000	14372
2800	62	202	662	971	1943	3179	4658	6365	8287	10415	12742	15260
3000	65	214	700	1026	2054	3362	4926	6730	8762	11012	13473	16135

KORABASE type 42





CONVERSION TO OTHER TEMPERATURE GRADIENT

Heat outputs of individual types of convectors were determined by measuring for nominal operating (temperature) conditions 75/65/20 °C ($t_1/t_2/t_i$) under ČSN EN 442. Under such defined basic values of heat outputs of convectors, respective heat outputs stated in this catalogue were derived by conversion for other temperature gradient, 65/55/20 °C and 55/45/20 °C. If the unit is designed with other temperature conditions, it is necessary to make a conversion according to the following relations:

- 1 $\Delta t = \frac{(t_1 + t_2)}{2} - t_i$
- 2 $f = \left(\frac{\Delta t}{50}\right)^n$
- 3 $Q = f \cdot Q_n$
- 4 $m = 0,86 \cdot \frac{Q}{t_1 - t_2}$

Where

t_1	[°C]	input water temperature
t_2	[°C]	output water temperature
t_i	[°C]	internal air temperature
Δt	[K]	temperature gradient
n	[-]	temperature exponent
f	[-]	conversion coefficient
Q_n	[W]	nominal heat output at 75/65/20 °C
Q	[W]	required output
m	[kg/h]	mass-flow rate

The output can also be calculated according to the characteristic equation in the table of basic technical parameters or at www.licon.cz

Calculation example

Given

- heat exchanger KORABASE BV 22 lenght 160
- input water temperature $t_1 = 60$ °C
- output water temperature $t_2 = 50$ °C
- internal air temperature $t_i = 22$ °C
- nominal output $Q_n = 1\,337$ W
- temperature exponent $n = 1,4151$

Solution

For operating conditions 60/50/22 °C, we calculate the temperature gradient Δt according to the formula 1 and then the value of the conversion coefficient f under the formula 2

- 1 $\Delta t = \frac{(t_1 + t_2)}{2} - t_i = \frac{(60 + 50)}{2} - 22 = 33$ K

In the output table for the required convector size we find the temperature exponent n . Coefficient f can be also found in the table for selected temperature gradients.

- 2 $f = \left(\frac{\Delta t}{50}\right)^n = \left(\frac{33}{50}\right)^{1,4151} = 0,5554$

The output for the required temperature gradient can be calculated using the equation:

- 3 $Q = f \cdot Q_n = 0,5554 \cdot 1\,337 = 742$ W

Coefficient f for selected temperature gradients for internal air temperature 20 °C

KORABASE BV and BP					
Type	90/70 °C	85/75 °C	70/50 °C	50/40 °C	45/35 °C
11	1,278	1,278	0,741	0,394	0,292
21	1,271	1,271	0,745	0,402	0,299
22	1,294	1,294	0,729	0,375	0,273
31	1,272	1,272	0,745	0,401	0,299
32	1,297	1,297	0,727	0,372	0,271
41	1,261	1,261	0,753	0,414	0,311
42	1,294	1,294	0,729	0,375	0,274

Warranty

Warranty period of the product is 2 years. Heat exchanger tightness warranty period is 10 years. Complete operating and warranty conditions are available at the manufacturer or on www.licon.cz. The manufacturer is not responsible for damages caused by transport, incorrect assembly or damages due to incorrect electrical or heat system installation (e.g. fluctuating voltage or hydraulic pressure, which varies substantially from normal values). The company Licon Heat, s.r.o. reserves the right to change technical specifications without prior notice.

Customised production

Thanks to modern production technologies, it is possible to manufacture atypical convector sizes.



The heating exchanger merges with the interior easily and has a wide range of options how to be used. Build exchangers right into the places where you want to have them

KORABASE KORABASE KORABASE
SE KORABASE KORABASE KORABASE
KORABASE KORABASE KORABASE
SE KORABASE KORABASE KORABASE
KORABASE KORABASE KORABASE
SE KORABASE KORABASE KORABASE
KORABASE KORABASE KORABASE
SE KORABASE KORABASE KORABASE
KORABASE KORABASE KORABASE



LICON HEAT, s. r. o.
Svárovská 699
Průmyslová zóna Sever
Liberec 11
460 11, Czech Republic
e-mail: info@licon.cz
www.licon.cz

SE KORABA BASE KORABASE
KORABASE KORABASE
SE KORABA BASE KORABASE