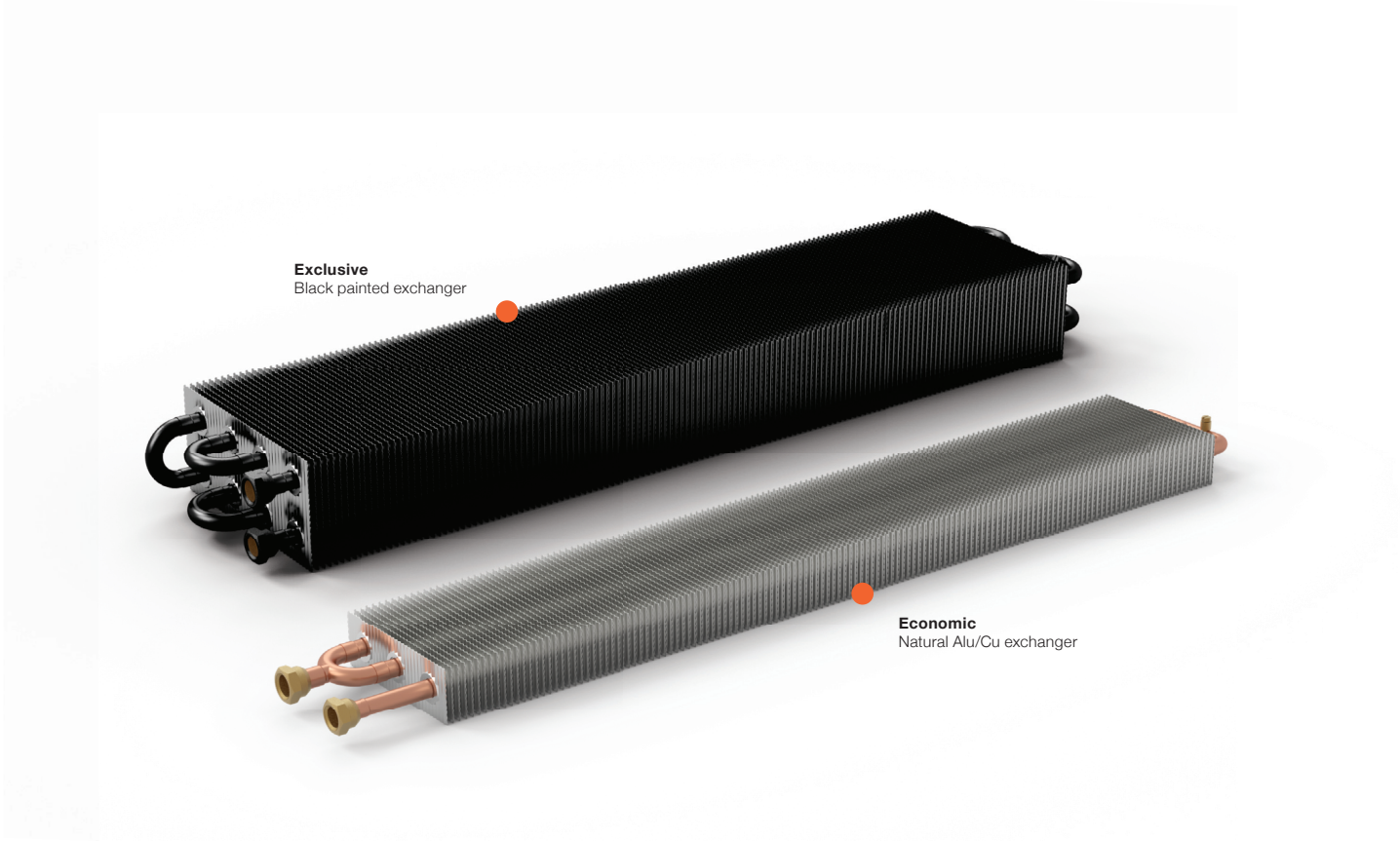


HEAT EXCHANGERS

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, 1000, 1200, 1400, 1600, 1800, 2000, 2200, 2400, 2600, 2800, 3000 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 inassembly 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

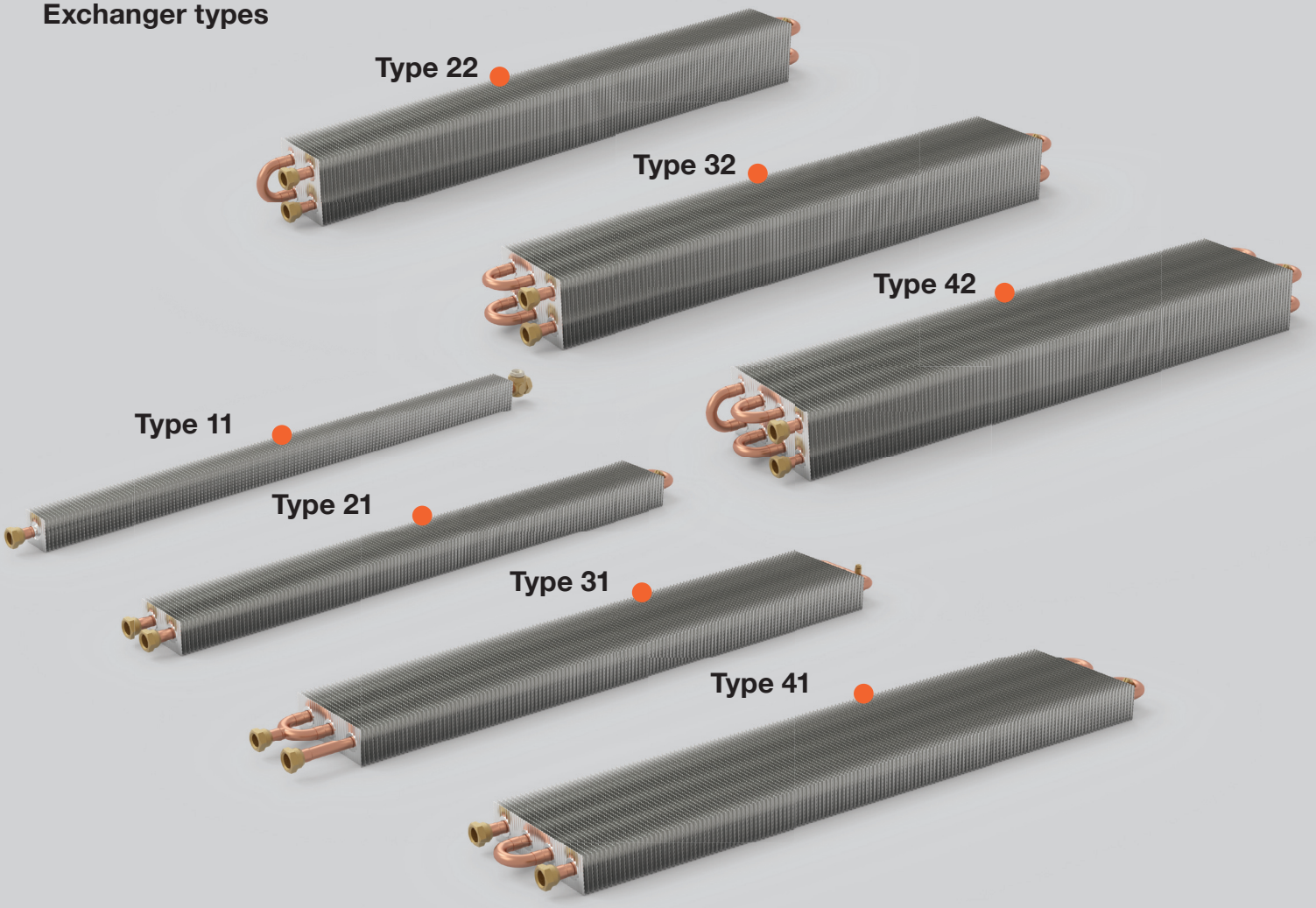
Optional accessories

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

KORABASE Economic

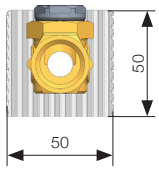
Natura Alu/Cu exchanger.

Exchanger types

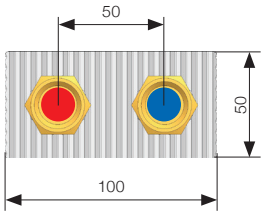


OVERVIEW OF TYPES

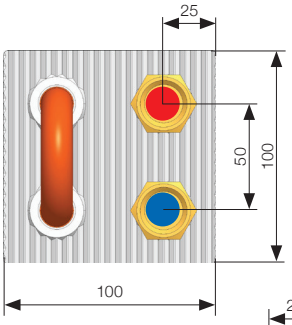
type 11



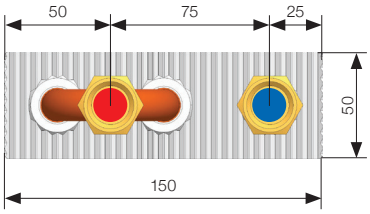
type 21



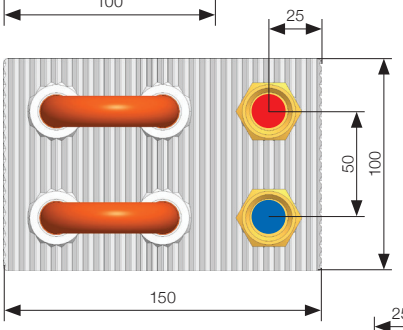
type 22



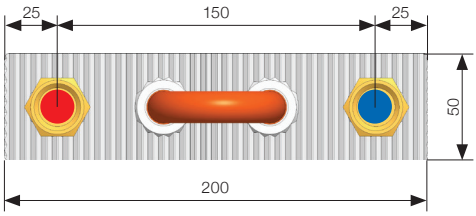
type 31



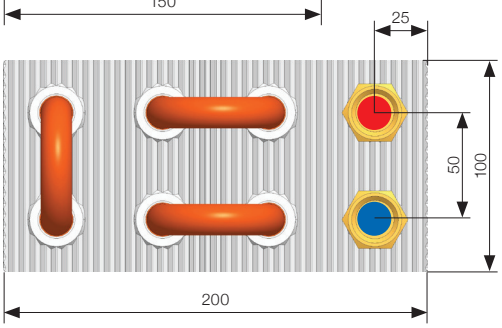
type 32



type 41



type 42



HEAT OUTPUTS

Heat outputs [W] at $t_1/t_2/t_i$ = at 75/65/20 °C (Δt=50), 65/55/20 °C (Δt=40) and 55/45/20 °C (Δt=30) / EN 442
Outputs in the table are specified for the convector box height 200 mm

KORABASE Exclusive, KORABASE Economic								
Length	$t_1/t_2/t_i$ [°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 × 50	Width x height 100 × 50	Width x height 100 × 100	Width x height 150 × 50	Width x height 150 × 100	Width x height 200 × 50	Width x height 200 × 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.

example

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

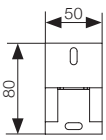
BASIC TECHNICAL PARAMETERS

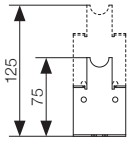
KORABASE Exclusive, KORABASE Economic							
Type of exchanger	**11**	**21**	**31**	**41**	**22**	**32**	**42**
Temperature exponent n [-]	1,3452	1,3162	1,3176	1,2735	1,4151	1,4262	1,4137
K_M [-]	2,4594	5,9134	8,4942	14,5964	5,2713	7,8670	11,2041
Characteristic equation	$\varphi = K_M \cdot \Delta T^n$						
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

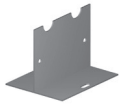
LIST OF BRACKETS

Floor brackets

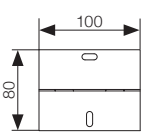
- optional accessories
- as for the length of 1 800 mm and longer you have to order at least 3 pcs of stand brackets
- as a standard delivered black painted

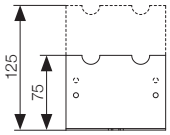


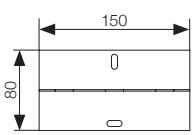


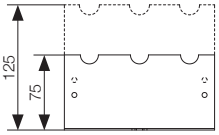


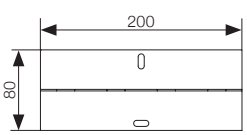
Height of the floor bracket	75	125	75	125
for type	11	11	21 and 22	21 and 22
purchase order code	BVS-1-7	BVS-1-12	BVS-2-7	BVS-2-12

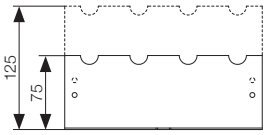








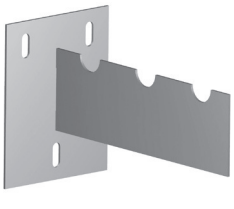


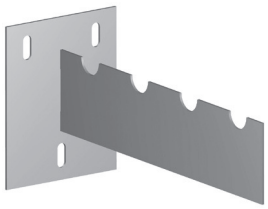


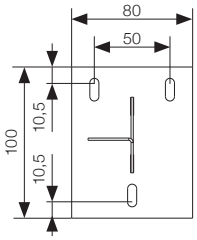
Height of the floor bracket	75	125	75	125
for type	31 and 32	31 and 32	41 and 42	41 and 42
purchase order code	BVS-3-7	BVS-3-12	BVS-4-7	BVS-4-12

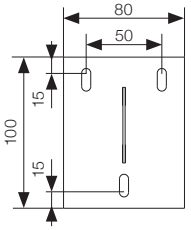
Wall brackets

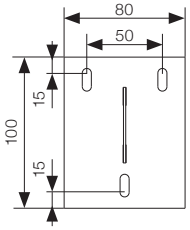
- optional accessories
- as for the length of 1 800 mm and you have to order at least 3 pcs of wall brackets
- as a standard delivered in RAL 9016

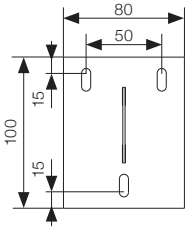


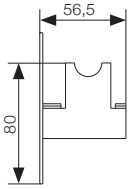


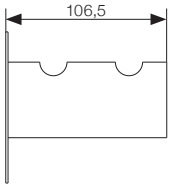


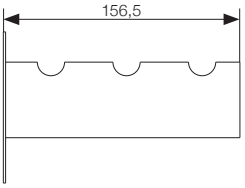


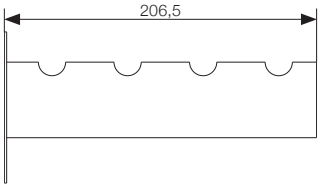












for type	11	21 and 22	31 and 32	41 and 42
purchase order code	BVK-1	BVK-2	BVK-3	BVK-4

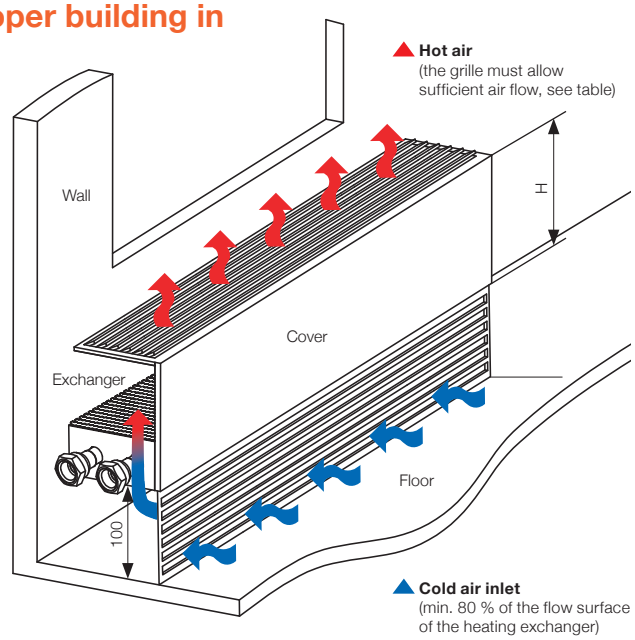
Dimensions are specified in mm.

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.

kH correction factor for the different H box height

Correction factor	$t_1/t_2/t_i$	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 × 1,278 = 2 137 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 = Exlusive	–	...	–	..	–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.