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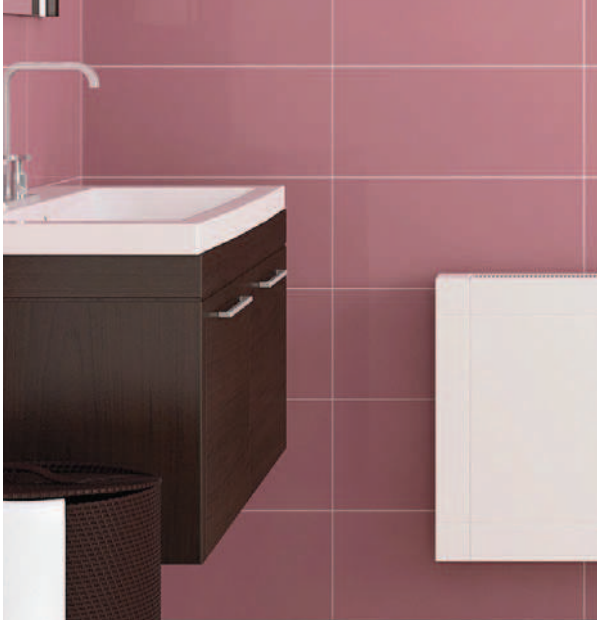
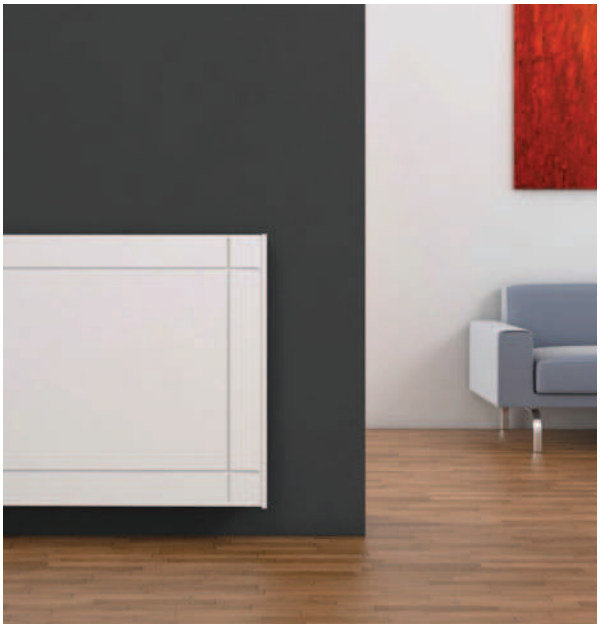
KORADO®

Convectors

LICON®
member of KORADO Group

1/2014





KORAWALL

WALL-MOUNTED CONVECTORS
natural convection

Apart from their design the wall-mounted convectors also offer many other advantages: efficient operation, higher performance with smaller dimensions, faster onset of heat. You won't burn yourself with our convectors! Surface max. temperature is 40 °C and the heat is transferred to the space of the room, and not into the wall. PLAN – design solution of wall-mounted convectors with flat front panel.

Wall-mounted convectors with natural convection KORAWALL

The wall-mounted convectors KORAWALL are standard wall-mounted convectors with a long history, used in households as well as in commercial premises. The modern design, easy mounting and economical operation are the reasons why they are so popular with our customers. With regard to the unique design of the heat exchanger used they achieve higher outputs even with small dimensions of the element. The great advantage of the wall-mounted convectors KORAWALL is their very low surface temperature of 40 °C and no heat dissipation into the wall.

Wall-mounted convectors classification

- KORAWALL WK Economic
- KORAWALL WP PLAN – element with flat front panel
- KORAWALL WK and WP InPool – element intended for humid environment

Standard delivery contains

- sheathing of zinc galvanised steel sheathing coated in shade RAL 9010 – white
- Al/Cu heat exchanger with low water content, air vent and uniquely shaped lamellas for a higher heat output
- version with the bottom or side connection (according to the code in the order)
- set for suspension of the element on the wall containing dowels, screws and suspension brackets
- the set is packed in durable packaging and contains installation instructions
- mounting instructions

Specification

depth *(mm)*	60, 120
height *(mm)*	450, 600
length *(mm)*	400, 600, 800, 1 000, 1 200, 1 400, 1 600, 1 800, 2 000
heat output *(W)*	from 266 to 2 598
max. working pressure *(bar)*	12
max. working temperature	110 °C
max. surface temperature	40 °C
connecting thread	inner G 1/2"
connection method	recommended bottom connection, side

Version WK (Economic) and WP (Plan) • sheathing of zinc galvanised steel sheet coated in shade RAL 9010
Version InPool • sheathing made of stainless steel AISI 316 and coated with RAL 9010 colour; intended for humid environment

Selectable specification

- in case of ordering more than 5 pieces it is possible to choose another colour shade finish according to the RAL scale (the manufacturer must be consulted about the change)
- all-stainless steel design suitable for humid environments such as swimming pools, stainless steel AISI 316 coated in white colour shade RAL 9010
- in case of low temperature gradient or lack of performance unit with a fan can be used, see page 78

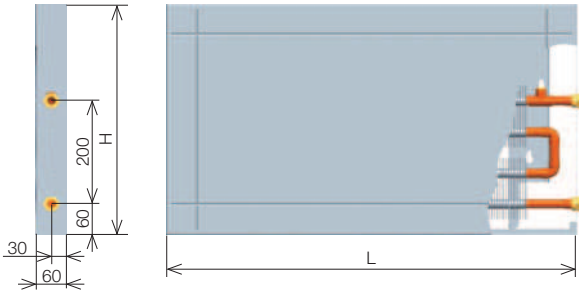
Design version KORAWALL PLAN

PLAN with an absolutely flat front panel.

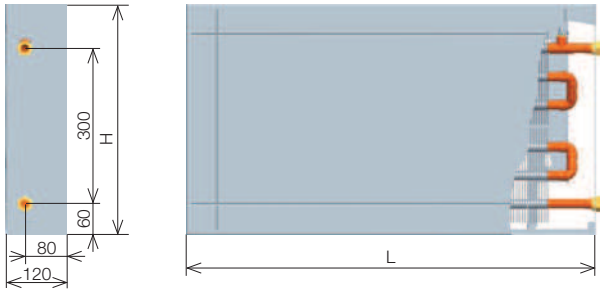
Elements' sections

Side connection

Depth 6 cm

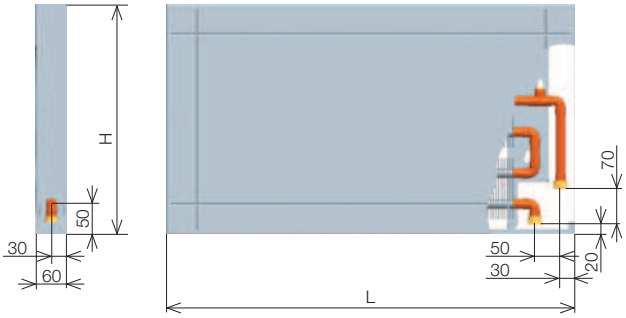


Depth 12 cm

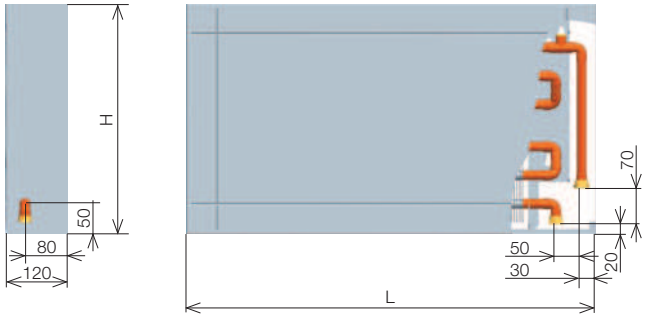


Bottom connection

Depth 6 cm



Depth 12 cm



Tëlesa KORAWALL is available in right or left version. The connecting side must be indicated in the order. In the schematic representations the dimensions are expressed in mm.

Heat outputs

Heat outputs (W) at tw1/tw2/ti = at 75/65/20 °C (Δt=50) and 65/55/20 °C (Δt=40)/EN 442

Depth (cm)		Δt	Length L (cm)								
			40	60	80	100	120	140	160	180	200
Height 45	6	Δt 50	266	400	533	665	799	933	1065	1199	1332
		Δt 40	199	299	399	498	598	698	797	897	997
	12	Δt 50	449	675	902	1127	1354	1578	1804	2030	2258
		Δt 40	336	505	675	843	1013	1181	1350	1519	1690
Height 60	6	Δt 50	291	436	582	727	873	1018	1159	1304	1450
		Δt 40	218	327	435	544	653	762	867	976	1085
	12	Δt 50	519	779	1039	1298	1558	1818	2078	2338	2598
		Δt 40	388	583	777	972	1166	1360	1555	1749	1944

• temperature exponent m = 1.3

Design solutions

The wall-mounted heat elements KORAWALL WK and KORAWALL WK InPool have on their front face a significant design element which consists of one design section in the lengths from 40 to 120 cm, two sections in the lengths from 140 to 180 cm and three sections in the length of 200 cm.

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 91.

Weights and water volumes of wall-mounted convectors

KORAWALL WK (WP) InPool version

Convectors intended for use at pools must be kept clean and regularly washed with clean water.

Type	45/6	60/6	45/12	60/12
kg/linear meter	14.9	19	16.4	20.6
stainless steel kg/1 linear meter	11.5	11.5	13	16
l/1 linear meter	1	1.5	1	1.5

The listed weights are without a packaging.

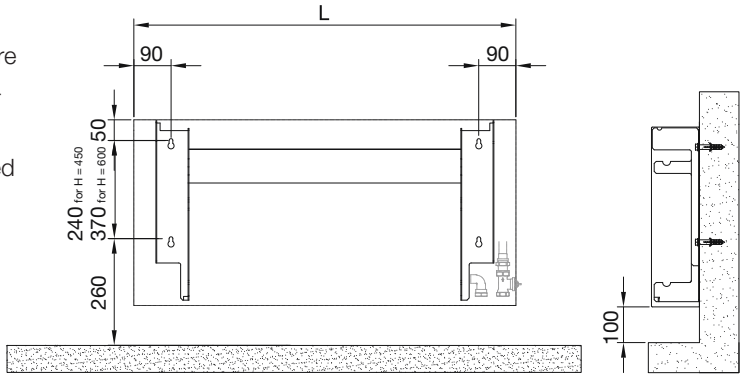
Installation of convectors KORAWALL

Installation instructions

It is recommended to always position the wall-mounted heating element on a peripheral wall, 10 cm above the floor. Elements are suspended on the wall with the use of dowels and screws included in the packaging. See the sketch of element anchorage for the method of suspension on the wall. The elements are supplied assembled.

Detailled information about installation and fixing the units KORAWALL can be found in Assembly Instructions.

Anchoring diagram



Ordering codes Wall-mounted convectors KORAWALL

		Wall-mounted convectors KORAWALL	Sheathing finish K Classical P PLAN		Type E Economic P InPool		Length (cm)	Height (cm)	Width (cm)		Water inlet SP bottom, right SL bottom, left BP side, right BL side, left	Color
Economic	steel/unpainted exchanger	W	K	E	-	...	..	..	-	SP	10
InPool	stainless steel for humid environment white/unpainted exchanger*	W	K	P	-	...	..	..	-	SP	10

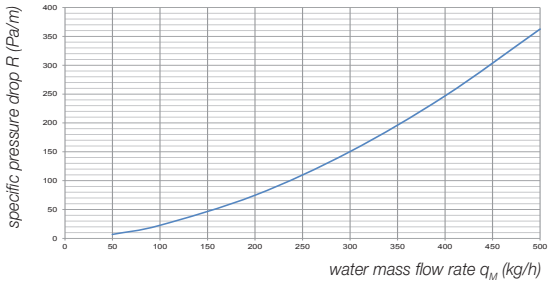
** custom-made design*

ORDERING CODE: KORAWALL length/height/depth (in cm) connection (B – side, S – bottom) connection side (L – left, P – right) PLAN version (PLAN). Example: WPE1406006-SP10 = convectors element KORAWALL, length 140 cm, height 60 cm, depth 6 cm, bottom connection on the right side version – PLAN.

Pressure losses of convectors

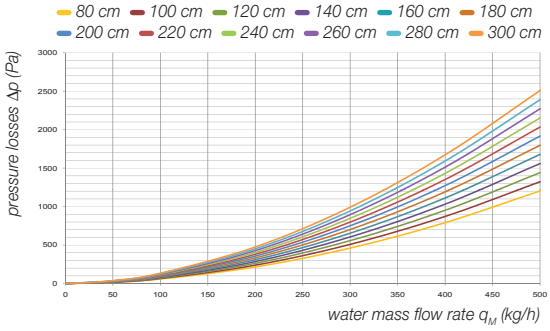
KORAFLEX FK 9/16, 11/16
KORABASE 10

KORABASE 10



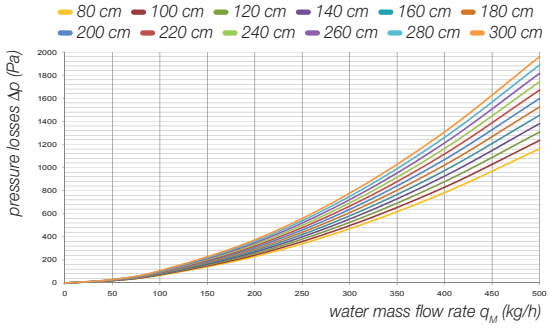
KORAFLEX FK 9/20, 9/28, 11/20, 11/28
KORALINE 9/18 and 9/24, KORABASE 20
KORAFLEX FV 8/28, 9/28, 11/28
KORAFLEX FV InPool 13/34

KORABASE 20



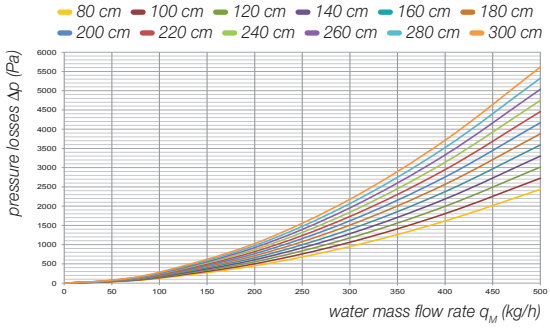
KORAFLEX 9/34, 11/34
KORAFLEX FV 11/34, KORABASE 30

KORABASE 30



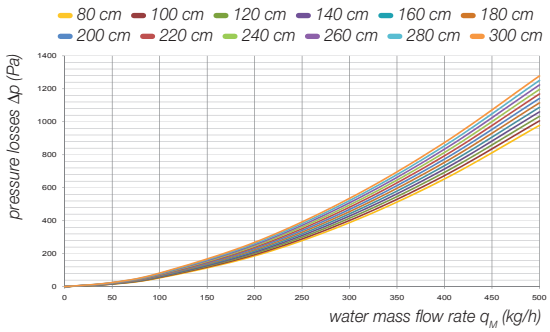
KORAFLEX FK 9/42, 11/42
KORAFLEX FV 11/42

KORABASE 40



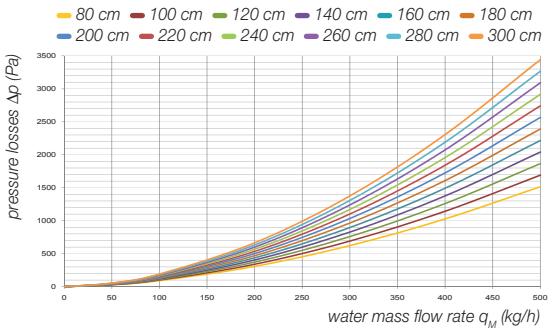
KORAFLEX FK 15/28, 19/28, 30/28, 45/28
KORALINE LK 15/18, 30/18, 45/18, 60/18
KORABASE 22

KORABASE 22



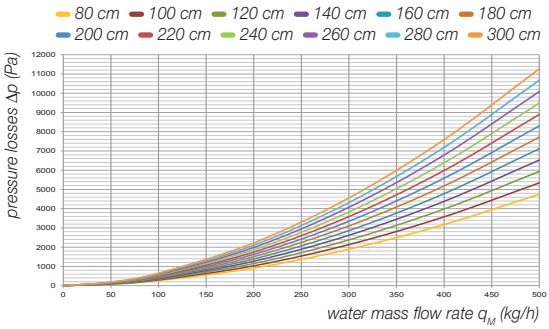
KORAFLEX FK 15/34, 19/34, 30/42, 45/42
KORALINE LK 15/24, 45/24, 60/24
KORABASE 33

KORABASE 33



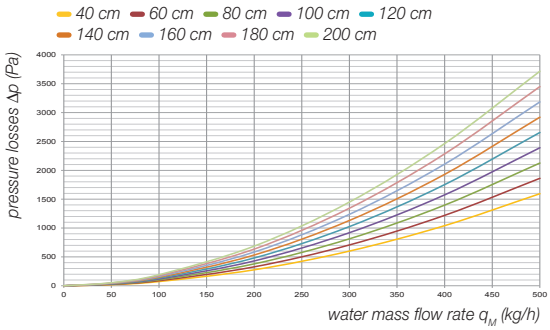
KORAFLEX FK 15/42, 19/42

KORABASE 44



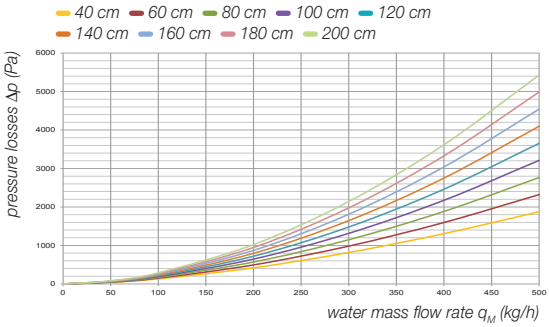
KORAWALL WK 45/6, 60/6

Heat exchanger for KORAWALL 6



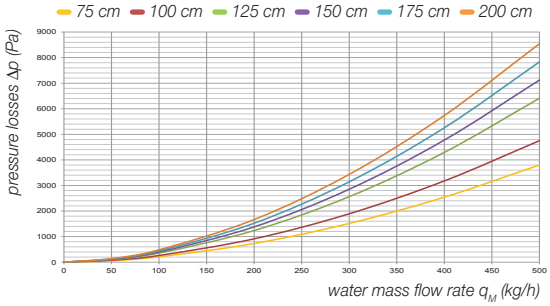
KORAWALL WK 45/12, 60/12

Heat exchanger KORAWALL 12



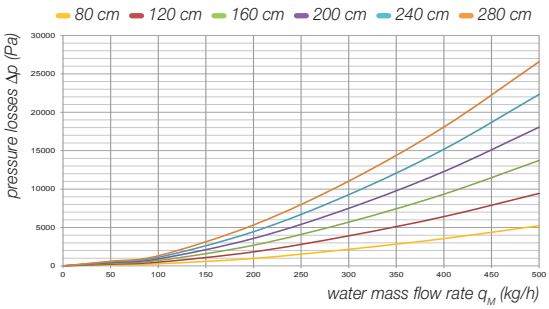
KORAWALL WI 45/11

Heat exchanger KORAWALL WI 45/11



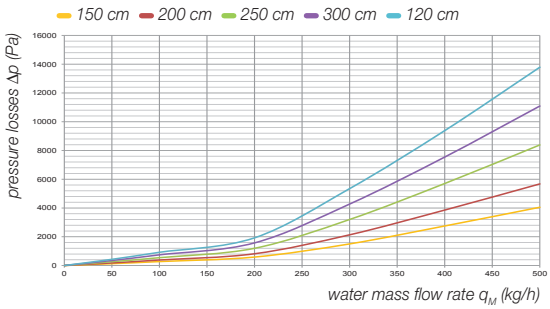
KORAFLEX FI 11/20

Heat exchanger KORAFLEX FI 11/20



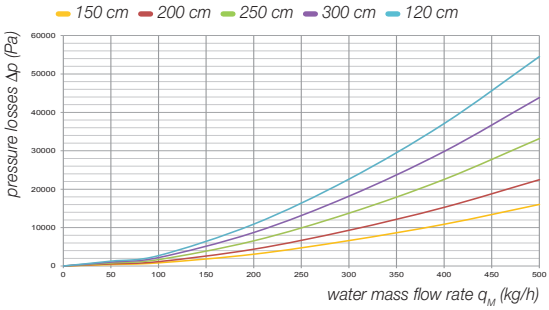
KORAFLEX FI 13/34

Heat exchanger KORAFLEX FI 13/34



KORAFLEX FW 13/34

Heat exchanger KORAFLEX FW 13/34



** Pressure losses of KORALINE LV are available on request.*

Examples of conversion to a variant temperature difference

$\Delta t = (tw1 + tw2)/2 - ti$

Where: tw1 is the inlet water temperature (°C)
tw2 is the outlet water temperature (°C)
ti is the air temperature (°C)
Δt is the cooling of water (K)

The resistance coefficient is valid for both 1/2" connections. You will find the kt factor in the table of correction factors of the particular element.

Entered: KORABASE 22/140 heating element
Rated operating condition: 75/65/20 °C
Qn = 1 198 W should be converted to the temperature difference Δt = 40 K
Q = Qn × factor kt = 1 198 × 0.748 = 896 W

Entered: KORAWALL WK 140/60/6 heating element
Computational operating status: 75/65/20 °C
Qn = 1 018 W should be converted to the temperature difference Δt = 30 K
Q = Qn × factor kt = 1 018 × 0.515 = 525 W

General information about products

Heating elements are produced using the state-of-the-art technologies. Most production operations are executed on CNC machines. The surface of elements is treated with powder coating of epoxy-polystyrene paints on an environment-friendly line. In-house production of high performance heat exchangers (copper pipe, aluminium lamellas) guarantees high quality and wide variety of products offered. To achieve an "invisible" impression you can order a black coated exchanger.

The case supplied as the standard is made of a black coated galvanised steel sheet. For use in wet environments you can order a case of a high corrosion resistance stainless steel. Thanks to our advanced production technology we are able to produce atypical dimensions, including angled and arc convectors' designs.

The shortest possible delivery periods are offered, from 3 to 10 working days. Guaranteed warranty and after-warranty service.

Transport and storage instruction

During transport the elements must be handled with extreme care and must be secured against motion and damage. The transport and storage area must be dry and protected from climatic influences.

Maintenance

The convectors must be kept clean and especially before the heating season any dirt and dust should be removed from the convectors. The fan convectors must be checked if the fans are not mechanically blocked (by fallen objects, a layer of dust, etc.).

Quality

Manufacturer is a holder of the certified quality management system as per ISO 9001:2008. The products are manufactured and tested according to EN 422. By using CE mark the producer confirms that the convectors are in conformity with the characteristics stated in the Declaration of Performance issued in conformity with the directive of EP and the Council (EU) No. 305/2011. This conformity was approved by the notified body No.1015, Strojírenský zkušební ústav, s.p. Brno.

HLK STUTTGART

Proven heating and cooling performances

EN EURONORM 442

DEKRA Management kvality Jsme certifikovaní

Warranties

The products are subject to 2-year warranty. 10-year warranty is provided for the tightness of the heat exchanger. Full service and warranty terms and conditions are available on demand.

Manufacturer KORADO, a.s. is not responsible for damage caused by improper installation, or damages arising from poor electrical or thermal installations (such as fluctuating voltage or hydraulic pressure which deviates significantly from normal values).

Manufacturer reserves the right to change technical specifications without a prior notice.