

CATALOG 2021



 KORAD



## HOW DO WE PRODUCE

*KORAD panel radiators are manufactured in an independent production plant that is equipped with state-of-the-art facilities with high automation level.*

*The production constantly responds to market requirements and world development trends with continuous innovations. Thanks to this fact, KORAD radiators from a long-term perspective represent a modern product of high quality. This can also be proved by the fact that the product is successfully sold throughout Europe and it is competitive even in the toughest competition of top European producers.*

**INNOVATIONS** / **TRADITIONS** / **QUALITY**

1

## STAMPING AND WELDING

The basic technology step in the production of radiators is stamping of panels from steel sheets of drawing grades. By stamping, two preforms are formed while are later in the technology flow welded together into one panel with spot welds and subsequently they are closed with circumferential seam welds. It is possible to weld convectors on the panels that increase the thermal – transfer area. Finally, by means of spot resistance welds the connecting fittings are welded on radiators. Thus, radiators make up one compact whole.



2

## TESTING

Each produced radiator undergoes a pressure test that guarantees its ability to fulfill its function flawlessly. Dimension inspections and processing quality inspections are continuously performed on products.



3

## SURFACE TREATMENT AND PACKAGING

In the following section of the production line the radiators undergo series of surface treatments starting with degreasing, cataphoretic application of primer and ending with the finish lacquer and curing in the oven. When the covers are provided a radiator is ready to be packed. Each radiator is packed in a cardboard packaging and its edges are protected separately. Finally, the radiator is wrapped into a protective plastic foil, placed on wooden pallets and ready for shipment.

# RADIATOR MODELS



## Classic

Radiators for ordinary use



## Plan

Models with flat front panel that offer stylish solutions



## Width range For individual types

In the table the parameters for the width and distance of the valve central axis from the hanging point are listed.

Type	Width a [mm]	Valve distance b [mm]
10	46	13
11	54	29
20	65	39,5
20W	100	57
21	65	39,5
22	100	57
33	155	112

## QUALITY OF RADIATORS

Technical parameters of KORAD steel panel radiators fulfill the requirements of the standard EN 442-1. The radiators are certified in accordance with EN 442-1 by a notified body No. ES1015, Strojírenský zkušební ústav, s. p. Brno, Česká republika and based on the issued Declaration on performance they are identified with the CE brand. The fulfilment of quality requirements in accordance with EN 442 is also confirmed by performance tests of radiators carried out by the renowned certification laboratory HLK Stuttgart. Declaration on parameters and certificates can be downloaded from the web page [www.korad-radiators.sk](http://www.korad-radiators.sk), or they can be sent upon request.

## MATERIAL

We produce panel radiators and convectors from cold rolled steel sheets, pursuant to EN10130+A1. Low carbon steel with higher strength and good weldability is used.

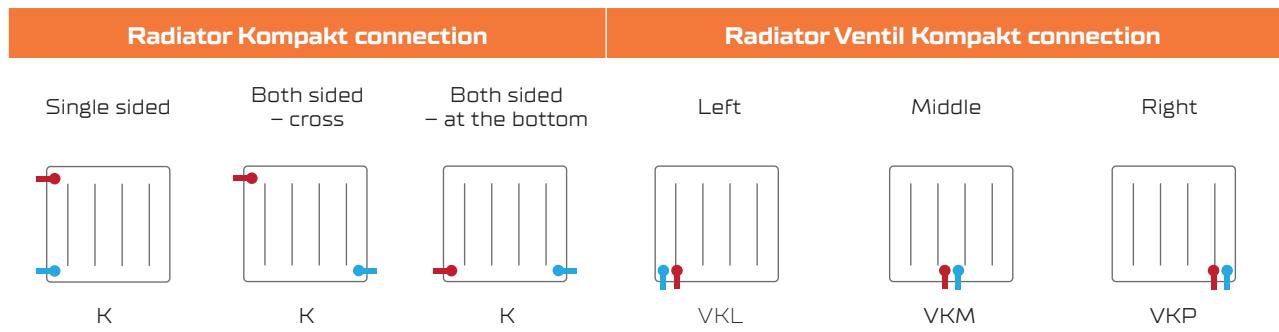
## PRESSURE AND TEMPERATURE

Min. test pressure	1,3 MPa
Max. operating pressure	1,0 MPa
Max. temperature of heat transfer fluid	110 °C

Each radiator must pass a leak test.

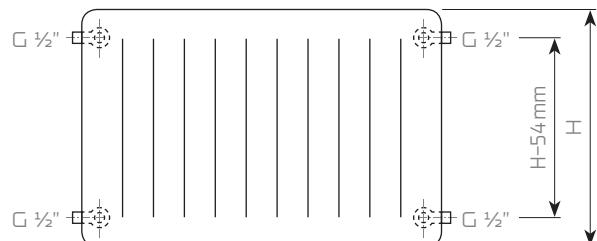
# RADIATOR CONNECTION

The radiator connection method influences its heating output. Usually, single-sided connection is used, when the water inlet is connected on top and the return flow on the same side at the bottom. For the radiators with Ventil Kompakt [VK] garniture the connecting points are provided in the bottom part of the radiator in such a way that the return flow is always closer to the radiator edge, no matter whether it is right or left model. It is important to pay appropriate attention to correct radiator connection since the reverse connection leads to heating output drop [30 to 40 %].



## Kompakt

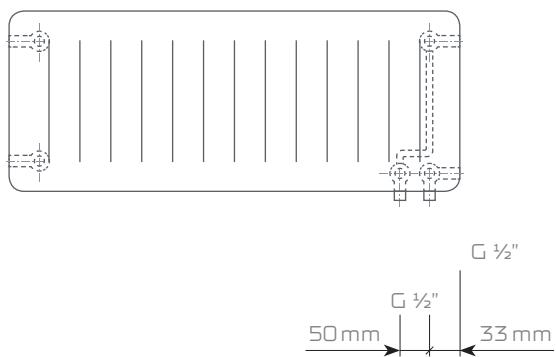
- 4x inner thread G 1/2"
- Connecting pitch = construction height H – 54 mm



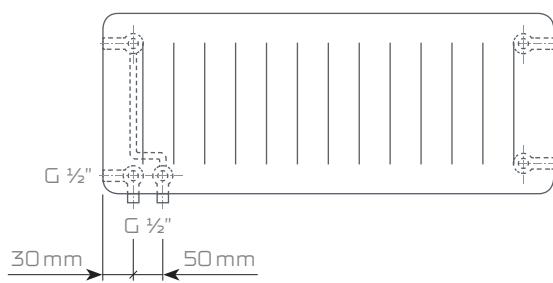
## Ventil Kompakt

- 2x inner thread of the radiator from the bottom G 1/2"
- Connecting pitch = 50 mm ± 0,5 mm
- Thermostat valve insert with the thread M 30 x 1,5 mm
- 4x inner thread for side connection G 1/2"
- Connecting pitch = construction height H – 54 mm
- When selecting the model VKU that is supplied without hangers it is necessary to use the wall bracket, type C (page 17) during installation.

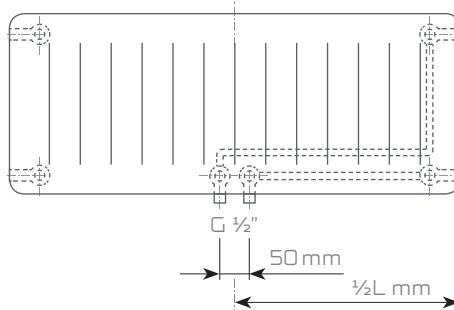
### Right



### Left



### Middle



# FLOW RATES

## CALCULATION OF THE VALVES DEFAULT SETTING FOR VENTIL KOMPAKT CONNECTION

Use of KORAD radiators with VENTIL KOMPAKT connection requires the valve setting. The position of the valve is determined by calculation. The valve is factory set to a maximum value of 8. After rinsing it is necessary to set this valve to the calculated value using a special spanner.

### EXAMPLE

Adjust the valve pre-setting for KORAD radiator type 21; height = 600 mm, length = 1800 mm in system with projected decrease of water temperature 70/55 °C and pressure drop 3 kPa.

#### GIVEN PARAMETERS:

heat output	$Q = 1860 \text{ W}$
water temperatures drop	$\Delta t = 15 \text{ K}$ [at the temperatures 70/55 °C]
pressure drop	$\Delta p = 3 \text{ kPa}$
specific heat of water	$C = 4186 \text{ J} \cdot \text{kg}^{-1} \cdot \text{K}^{-1}$

#### VALUE WE LOOK FOR:

mass flow rate  $M_w = ? \text{ kg} \cdot \text{h}^{-1}$

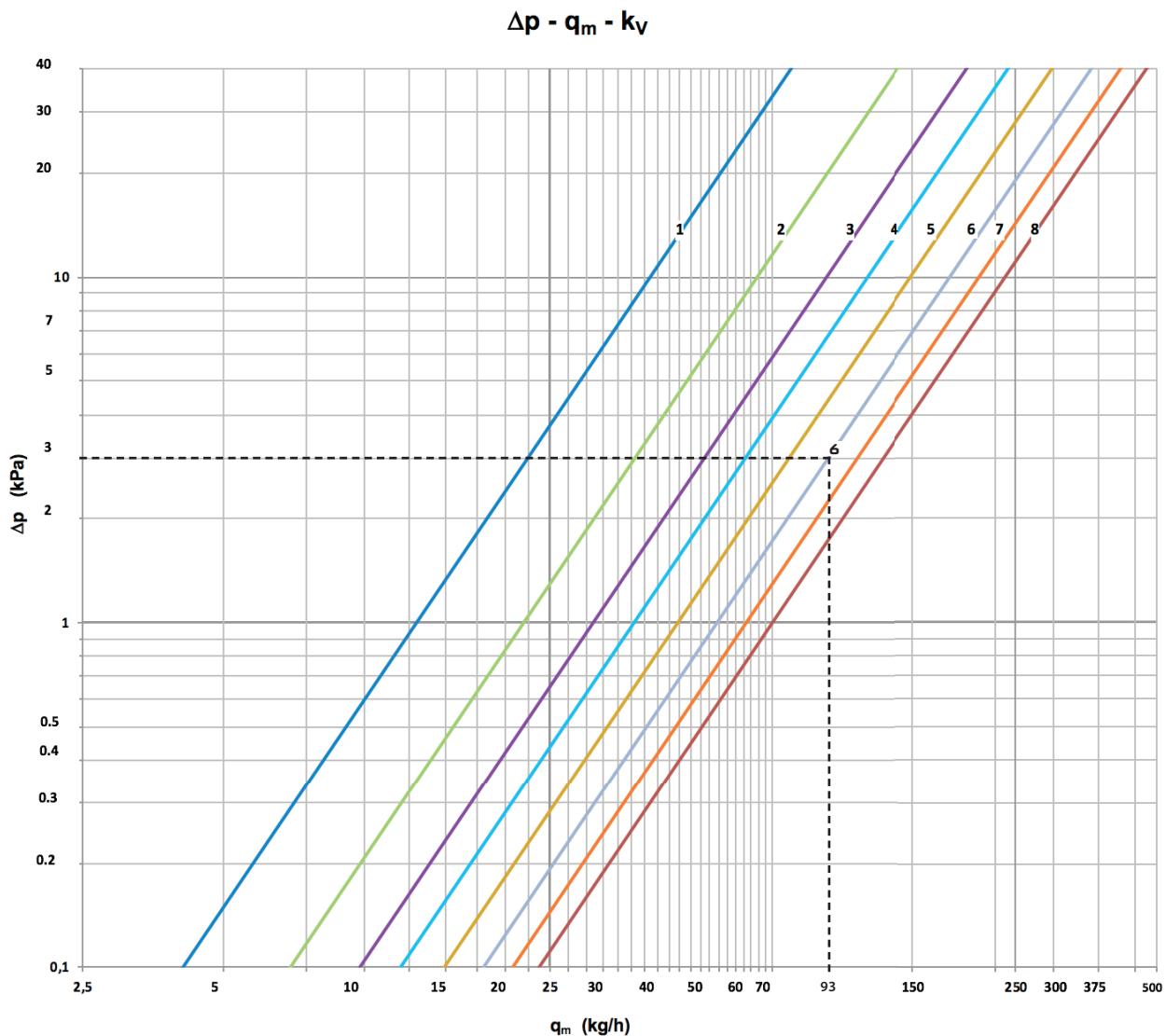
## 1) SOLUTION

### Mass flow rate calculation

$$M_w = \frac{Q}{c \cdot \Delta t} \cdot 3600 = \frac{1860 \text{ W}}{4186 \text{ J} \cdot \text{kg}^{-1} \cdot \text{K}^{-1} \cdot 15 \text{ K}} \cdot 3600 = 93 \text{ kg} \cdot \text{h}^{-1}$$

## 2) Determination of the Valve insertion Flow rate

From the previous calculation we get the mass flow rate value  $M_w$ , thus we have all input values to determine  $k_v$  by degrees from the following diagram:



Valve insertion flow setting								
	1	2	3	4	5	6	7	
$K_{vs}$	0,16	0,27	0,38	0,43	0,65	0,98	1,23	1,43
$K_v$	0,13	0,22	0,31	0,38	0,47	0,57	0,66	0,75

$K_v$  value [ $m^3/h$ ]

For the calculated mass flow rate and pressure loss from the example the default setting of degree 6 is applicable.



### HOW TO SET A VALVE CORRECTLY?

For the radiators with Ventil Kompakt connection we supply Heimeier 4360 or OVENTROP 164.8088 valves as standard. It has 8 basic positions; intermediate positions can also be set. The setting itself is done with a special spanner and it is carried out before the heat test.

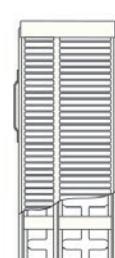
# CLASSIC K, VK, VKM

Everyone can choose

The basic model of KORAD radiators is made in several modifications based on the number of panels, convectors, with different dimensions and surface treatments. You will make your choice for sure.



## TYPES OF RADIATOR KORAD





## BASIC TECHNICAL DATA

HEIGHT (H) 300 mm				HEIGHT (H) 400 mm				HEIGHT (H) 500 mm			
Type	$M_T$ [kg.m <sup>-1</sup> ]	$V_T$ [dm <sup>3</sup> .m <sup>-1</sup> ]	n [-]	Type	$M_T$ [kg.m <sup>-1</sup> ]	$V_T$ [dm <sup>3</sup> .m <sup>-1</sup> ]	n [-]	Type	$M_T$ [kg.m <sup>-1</sup> ]	$V_T$ [dm <sup>3</sup> .m <sup>-1</sup> ]	n [-]
10	6,75	1,81	1,3187	10	8,60	2,24	1,3072	10	10,60	2,67	1,2958
11	10,60	1,81	1,2912	11	13,70	2,24	1,2953	11	17,05	2,67	1,2994
21	14,97	3,50	1,3239	21	19,46	4,37	1,3338	20	21,30	5,23	1,2755
22	17,13	3,50	1,3087	22	22,99	4,37	1,3168	20W	21,30	5,23	1,3010
33	25,31	5,20	1,3005	33	33,97	6,53	1,3151	21	23,98	5,23	1,3437

### Comment

Data in tables refer to radiators with the length of 1000 mm

### Notes

$M_T$  - Radiator body weight

$V_T$  - Water volume of radiator body

n - Temperature exponent

HEIGHT (H) 550 mm				HEIGHT (H) 600 mm				HEIGHT (H) 900 mm			
Type	$M_T$ [kg.m <sup>-1</sup> ]	$V_T$ [dm <sup>3</sup> .m <sup>-1</sup> ]	n [-]	Type	$M_T$ [kg.m <sup>-1</sup> ]	$V_T$ [dm <sup>3</sup> .m <sup>-1</sup> ]	n [-]	Type	$M_T$ [kg.m <sup>-1</sup> ]	$V_T$ [dm <sup>3</sup> .m <sup>-1</sup> ]	n [-]
20	23,55	5,30	1,3067	10	12,53	3,10	1,2843	11	29,47	4,30	1,3237
21	27,00	5,30	1,2776	11	19,95	3,10	1,3035	21	42,59	8,70	1,3507
22	31,20	5,35	1,3413	20	25,45	6,10	1,2818	22	48,30	8,70	1,3348
33	46,05	8,15	1,3357	20W	25,45	6,10	1,3066	33	73,37	13,00	1,3580
				21	28,50	6,10	1,3536				
				22	32,75	6,10	1,3331				
				33	48,72	9,20	1,3444				

## ➤ Heating output /W/ for water as a heat transfer medium according to EN 442

20°C		Type 10 K Type 10 VK Type 10 VKM					Type 11 K Type 11 VK Type 11 VKM					Type 20 K Type 20 VK Type 20 VKM			
Length L /mm/	t/t <sub>r</sub> /°C/	300	400	500	600	900	300	400	500	600	900	500	550	600	900
400	<b>75/65</b>	—	—	214	248	332	218	276	330	384	538	333	378	386	548
	<b>70/55</b>	—	—	174	202	268	177	223	268	311	434	270	306	314	443
	<b>55/45</b>	—	—	110	129	169	113	142	170	197	274	174	194	201	281
500	<b>75/65</b>	171	222	268	311	415	273	345	413	480	673	416	473	483	685
	<b>70/55</b>	138	179	217	252	334	221	279	335	389	542	338	382	392	553
	<b>55/45</b>	87	114	138	161	211	141	178	213	247	342	217	243	251	351
600	<b>75/65</b>	205	266	322	373	497	327	413	496	576	807	499	567	580	821
	<b>70/55</b>	166	215	260	302	401	265	335	401	466	651	406	458	470	664
	<b>55/45</b>	104	136	166	193	253	169	213	255	296	410	260	291	301	421
700	<b>75/65</b>	—	—	375	435	580	382	482	578	672	942	582	662	676	958
	<b>70/55</b>	—	—	304	353	468	309	391	468	544	759	473	535	549	775
	<b>55/45</b>	—	—	193	225	295	197	249	298	345	479	304	340	351	491
800	<b>75/65</b>	—	—	429	497	663	436	551	661	768	1076	666	756	773	1095
	<b>70/55</b>	—	—	347	403	535	354	446	535	622	868	541	611	627	885
	<b>55/45</b>	—	—	221	258	338	226	284	340	394	547	347	388	402	561
900	<b>75/65</b>	—	—	482	559	746	491	620	743	864	1211	749	851	869	1232
	<b>70/55</b>	—	—	391	454	602	398	502	602	699	976	608	688	706	996
	<b>55/45</b>	—	—	248	290	380	254	320	383	444	616	391	437	452	631
1000	<b>75/65</b>	—	—	536	621	829	545	689	826	960	1345	832	945	966	1369
	<b>70/55</b>	—	—	434	504	669	442	558	669	777	1085	676	764	784	1107
	<b>55/45</b>	—	—	276	322	422	282	356	425	493	684	434	485	502	701
1100	<b>75/65</b>	—	—	590	683	912	600	758	909	1056	1480	915	1040	1063	1506
	<b>70/55</b>	—	—	477	554	736	486	614	736	855	1193	744	840	863	1217
	<b>55/45</b>	—	—	304	354	464	310	392	468	542	752	477	534	552	771
1200	<b>75/65</b>	—	—	643	745	995	654	827	991	1152	1614	998	1134	1159	1643
	<b>70/55</b>	—	—	521	605	803	530	670	803	932	1302	811	917	941	1328
	<b>55/45</b>	—	—	331	386	506	338	427	510	592	821	521	582	602	842
1400	<b>75/65</b>	—	—	750	869	1161	763	965	1156	1344	1883	1165	1323	1352	1917
	<b>70/55</b>	—	—	608	706	936	619	781	937	1088	1519	946	1070	1098	1549
	<b>55/45</b>	—	—	386	451	591	395	498	595	690	958	608	679	703	982
1600	<b>75/65</b>	—	—	858	994	1326	872	1102	1322	1536	2152	1331	1512	1546	2190
	<b>70/55</b>	—	—	694	806	1070	707	893	1070	1243	1735	1082	1222	1254	1771
	<b>55/45</b>	—	—	442	515	675	451	569	680	789	1094	694	776	803	1122
1800	<b>75/65</b>	—	—	965	1118	—	981	1240	1487	1728	—	1498	1701	1739	—
	<b>70/55</b>	—	—	781	907	—	796	1005	1204	1399	—	1217	1375	1411	—
	<b>55/45</b>	—	—	497	580	—	508	640	765	887	—	781	873	904	—
2000*	<b>75/65</b>	—	—	1072	1242	—	1090	1378	1652	1920	—	1664	1890	1932	—
	<b>70/55</b>	—	—	868	1008	—	884	1116	1338	1554	—	1352	1528	1568	—
	<b>55/45</b>	—	—	552	644	—	564	711	850	986	—	868	970	1004	—
2300	<b>75/65</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	<b>70/55</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	<b>55/45</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2600	<b>75/65</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	<b>70/55</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	<b>55/45</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	<b>75/65</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	<b>70/55</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	<b>55/45</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Type 21 K Type 21 VK Type 21 VKM							Type 22 K Type 22 VK Type 22 VKM							Type 33 K Type 33 VK Type 33 VKM						
Height H /mm/														t/t <sub>r</sub> , °C/	Length L /mm/					
300	400	500	550	600	900	300	400	500	550	600	900	300	400	500	550	600	900			
301	375	446	483	515	715	393	493	588	638	679	939	555	700	836	906	964	1307	<b>75/65</b>		
242	302	358	388	413	574	318	398	474	614	547	756	450	566	674	729	775	1048	<b>70/55</b>	400	
153	190	224	244	258	359	202	252	299	324	344	475	286	358	424	458	485	653	<b>55/45</b>		
376	469	558	604	644	894	492	617	735	797	849	1174	694	876	1046	1133	1205	1634	<b>75/65</b>		
303	377	448	486	517	718	398	498	593	643	684	945	562	707	843	912	969	1310	<b>70/55</b>	500	
191	237	281	305	323	449	252	315	374	405	430	594	357	447	530	573	607	817	<b>55/45</b>		
451	562	669	725	772	1073	590	740	882	956	1019	1409	833	1051	1255	1359	1446	1960	<b>75/65</b>		
364	452	538	583	620	862	477	597	711	771	820	1134	674	848	1011	1094	1162	1572	<b>70/55</b>	600	
229	284	337	365	387	538	302	377	448	486	515	712	428	536	636	687	728	980	<b>55/45</b>		
526	656	781	846	901	1252	688	863	1029	1116	1189	1644	972	1226	1464	1586	1687	2287	<b>75/65</b>		
424	528	627	680	723	1005	557	697	830	900	957	1323	787	990	1180	1276	1356	1834	<b>70/55</b>	700	
267	332	393	426	452	628	353	440	523	567	601	831	500	626	742	802	849	1143	<b>55/45</b>		
602	750	892	966	1030	1430	786	986	1176	1275	1358	1878	1110	1401	1673	1812	1928	2614	<b>75/65</b>		
485	603	717	777	826	1149	636	796	948	1028	1094	1512	899	1131	1348	1458	1550	2096	<b>70/55</b>	800	
306	379	449	487	516	718	403	503	598	648	687	950	571	715	848	916	970	1306	<b>55/45</b>		
677	843	1004	1087	1158	1609	885	1110	1323	1435	1528	2113	1249	1576	1882	2039	2169	2940	<b>75/65</b>		
545	679	806	874	930	1292	716	896	1067	1157	1230	1701	1012	1273	1517	1641	1743	2358	<b>70/55</b>	900	
344	427	505	548	581	807	454	566	672	729	773	1068	643	805	954	1031	1092	1470	<b>55/45</b>		
752	937	1115	1208	1287	1788	983	1233	1470	1594	1698	2348	1388	1751	2091	2265	2410	3267	<b>75/65</b>		
606	754	896	971	1033	1436	795	995	1185	1285	1367	1890	1124	1414	1685	1823	1937	2620	<b>70/55</b>	1000	
382	474	561	609	645	897	504	629	747	810	859	1187	714	894	1060	1145	1213	1633	<b>55/45</b>		
827	1031	1227	1329	1416	1967	1081	1356	1617	1753	1868	2583	1527	1926	2300	2492	2651	3594	<b>75/65</b>		
667	829	986	1068	1136	1580	875	1095	1304	1414	1504	2079	1236	1555	1854	2005	2131	2882	<b>70/55</b>	1100	
420	521	617	670	710	987	554	692	822	891	945	1306	785	983	1166	1260	1334	1796	<b>55/45</b>		
902	1124	1338	1450	1544	2146	1180	1480	1764	1913	2038	2818	1666	2101	2509	2718	2892	3920	<b>75/65</b>		
727	905	1075	1165	1240	1723	954	1194	1422	1542	1640	2268	1349	1697	2022	2188	2324	3144	<b>70/55</b>	1200	
458	569	673	731	774	1076	605	755	896	972	1031	1424	857	1073	1272	1374	1456	1960	<b>55/45</b>		
1053	1312	1561	1691	1802	2503	1376	1726	2058	2232	2377	3287	1943	2451	2927	3171	3374	4574	<b>75/65</b>		
848	1056	1254	1359	1446	2010	1113	1393	1659	1799	1914	2646	1574	1980	2359	2552	2712	3668	<b>70/55</b>	1400	
535	664	785	853	903	1256	706	881	1046	1134	1203	1662	1000	1252	1484	1603	1698	2286	<b>55/45</b>		
1203	1499	1784	1933	2059	2861	1573	1973	2352	2550	2717	2757	2221	2802	3346	3624	3856	5227	<b>75/65</b>		
970	1206	1434	1554	1653	2298	1272	1592	1896	2056	2187	3024	1798	2262	2696	2917	3099	4192	<b>70/55</b>	1600	
611	758	898	974	1032	1435	806	1006	1195	1296	1374	1899	1142	1430	1696	1832	1941	2613	<b>55/45</b>		
1354	1687	2007	2174	2317	—	1769	2219	2646	2869	3056	4226	2498	3152	3764	4077	4338	5881	<b>75/65</b>		
1091	1357	1613	1748	1859	—	1431	1791	2133	2313	2461	3402	2023	2545	3033	3281	3487	4716	<b>70/55</b>	1800	
688	853	1010	1096	1161	—	907	1132	1345	1458	1546	2137	1285	1609	1908	2061	2183	2939	<b>55/45</b>		
1504	1874	2230	2416	2574	—	1966	2466	2940	3188	3396	4696	2776	3502	4182	4530	4820	6534	<b>75/65</b>		
1212	1508	1792	1942	2066	—	1590	1990	2370	2570	2734	3780	2248	2828	3370	3646	3874	5240	<b>70/55</b>	2000*	
764	948	1122	1218	1290	—	1008	1258	1494	1620	1718	2374	1428	1788	2120	2290	2426	3266	<b>55/45</b>		
—	—	2565	—	2960	—	2261	2836	3381	—	3905	—	3192	4027	4809	—	5543	—	<b>75/65</b>		
—	—	2061	—	2376	—	1829	2289	2726	—	3144	—	2585	3252	3876	—	4455	—	<b>70/55</b>	2300	
—	—	1290	—	1484	—	1159	1447	1718	—	1976	—	1642	2056	24438	—	2790	—	<b>55/45</b>		
—	—	2899	—	3346	—	2556	3206	3822	—	4415	—	3609	4553	5437	—	6266	—	<b>75/65</b>		
—	—	2330	—	2686	—	2067	2587	3081	—	3554	—	2922	3676	4381	—	5036	—	<b>70/55</b>	2600	
—	—	1459	—	1677	—	1310	1635	1942	—	2233	—	1856	23244	2756	—	3154	—	<b>55/45</b>		
—	—	3345	—	3861	—	2949	3699	4410	—	5094	—	4164	5253	6273	—	7230	—	<b>75/65</b>		
—	—	2688	—	3099	—	2385	2985	3555	—	4101	—	3372	4242	5055	—	5811	—	<b>70/55</b>	3000	
—	—	1683	—	1935	—	1512	1887	2241	—	2577	—	2142	2686	3180	—	3639	—	<b>55/45</b>		

\* Radiators with middle connection VKM are available only up to lengths of 2 000 mm.

# PLAN

## Offered available design

The model with smooth frontal area converts a standard radiator into a designer piece suitable for each interior. In addition, KORAD Plan radiators are also available in full color print version.



### TYPES OF RADIATOR KORAD PLAN

11



20



20W



21



22



33





## BASIC TECHNICAL DATA

### Poznámka

Data in tables refer to radiators with the length of 1000 mm

### Vysvětlivky

$M_T$  - Radiator body weight

$V_T$  - Water volume  
of radiator body

$n$  - Temperature exponent

HEIGHT (H) 300 mm			HEIGHT (H) 400 mm			HEIGHT (H) 500 mm					
Type	$M_T$ [kg.m <sup>-1</sup> ]	$V_T$ [dm <sup>3</sup> .m <sup>-1</sup> ]	n	Type	$M_T$ [kg.m <sup>-1</sup> ]	$V_T$ [dm <sup>3</sup> .m <sup>-1</sup> ]	n	Type	$M_T$ [kg.m <sup>-1</sup> ]	$V_T$ [dm <sup>3</sup> .m <sup>-1</sup> ]	n
11	12,19	1,81	1,2790	11	16,29	2,24	1,2797	11	20,37	2,67	1,2804
21	17,94	3,50	1,3015	21	23,75	4,37	1,3114	20	23,88	5,23	1,2642
22	20,24	3,50	1,3036	22	27,02	4,37	1,3121	21	26,32	5,23	1,3213
33	29,04	5,20	1,3022	33	38,75	6,53	1,3070	22	29,92	5,23	1,3207
33	25,31	5,20	1,3005					33	42,36	7,87	1,3117

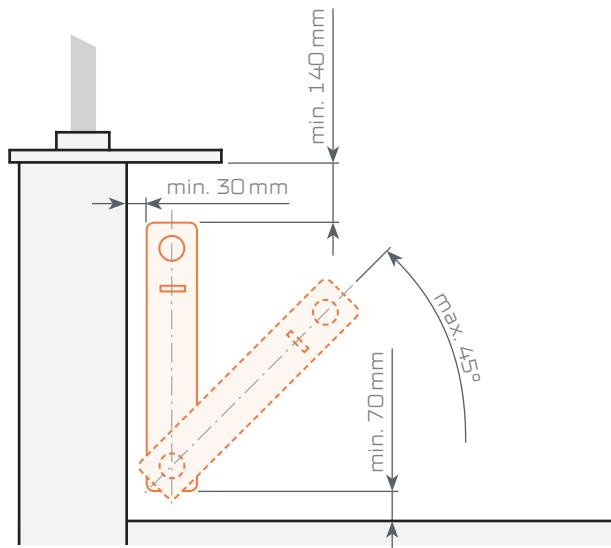
HEIGHT (H) 550 mm			HEIGHT (H) 600 mm			HEIGHT (H) 900mm					
Type	$M_T$ [kg.m <sup>-1</sup> ]	$V_T$ [dm <sup>3</sup> .m <sup>-1</sup> ]	n	Type	$M_T$ [kg.m <sup>-1</sup> ]	$V_T$ [dm <sup>3</sup> .m <sup>-1</sup> ]	n	Type	$M_T$ [kg.m <sup>-1</sup> ]	$V_T$ [dm <sup>3</sup> .m <sup>-1</sup> ]	n
20	28,40	5,30	1,2981	11	24,47	3,10	1,2811	11	36,75	4,30	1,2732
21	31,85	5,30	1,3640	20	28,67	6,10	1,2668	20	44,85	8,70	1,2956
22	36,05	5,30	1,3290	21	31,60	6,10	1,3266	21	49,43	8,70	1,3312
33	50,90	8,15	1,3446	22	35,92	6,10	1,3292	22	56,18	8,70	1,3321
				33	50,85	9,20	1,3143	33	79,50	13,00	1,3346

## > Heating output /W/ for water as a heat transfer medium according to EN 442

20°C		Type 11 PLAN					Type 20 PLAN				Type 21 PLAN		
Length L /mm/	t <sub>1</sub> /t <sub>2</sub> /°C/	Height H /mm/											
		300	400	500	600	900	500	550	600	900	300	400	500
400	75/65	202	250	296	344	495	309	335	358	495	279	342	402
	70/55	164	203	241	279	402	252	272	291	401	226	276	325
	55/45	105	130	154	179	258	162	173	187	255	143	175	205
500	75/65	253	312	371	430	619	386	419	447	619	349	428	503
	70/55	206	254	301	349	503	315	340	364	501	282	346	406
	55/45	132	163	193	224	323	203	216	234	319	179	219	256
600	75/65	304	374	445	516	742	463	503	536	742	418	513	604
	70/55	247	304	361	419	604	377	407	436	601	338	415	487
	55/45	158	195	231	268	388	243	259	281	383	215	263	307
700	75/65	354	437	519	602	866	540	587	626	866	488	599	704
	70/55	288	355	421	489	704	440	475	509	701	395	484	568
	55/45	184	228	270	313	452	284	302	328	447	251	307	358
800	75/65	405	499	593	688	990	618	670	715	990	558	684	805
	70/55	329	406	482	558	805	503	543	582	802	451	553	650
	55/45	210	260	308	358	517	324	346	374	510	286	350	410
900	75/65	455	562	667	774	1113	695	754	805	1113	627	770	905
	70/55	370	456	542	628	905	566	611	654	902	508	622	731
	55/45	237	293	347	402	581	365	389	421	574	322	394	461
1000	75/65	506	624	741	860	1237	772	838	894	1237	697	855	1006
	70/55	411	507	602	698	1006	629	679	727	1002	564	691	812
	55/45	263	325	385	447	646	405	432	468	638	358	438	512
1100	75/65	557	686	815	946	1361	849	922	983	1361	767	941	1107
	70/55	452	558	662	768	1107	692	747	800	1102	620	760	893
	55/45	289	358	424	492	711	446	475	515	702	394	482	563
1200	75/65	607	749	889	1032	1484	926	1006	1073	1484	836	1026	1207
	70/55	493	608	722	838	1207	755	815	872	1202	677	829	974
	55/45	316	390	462	536	775	486	518	562	766	430	526	614
1400	75/65	708	874	1037	1204	1732	1081	1173	1252	1732	976	1197	1408
	70/55	575	710	843	977	1408	881	951	1018	1403	790	967	1137
	55/45	368	455	539	626	904	567	605	655	893	501	613	717
1600	75/65	810	998	1186	1376	1979	1235	1341	1430	1979	1115	1368	1610
	70/55	658	811	963	1117	1610	1006	1086	1163	1603	902	1106	1299
	55/45	421	520	616	715	1034	648	691	749	1021	573	701	819
1800	75/65	911	1123	1334	1548	-	1390	1508	1609	2227	1255	1539	1811
	70/55	740	913	1084	1256	-	1132	1222	1309	1804	1015	1244	1462
	55/45	473	585	693	805	-	729	778	842	1148	644	788	922
2000	75/65	1012	1248	1482	1720	-	1544	1676	1788	2474	1394	1710	2012
	70/55	822	1014	1204	1396	-	1258	1358	1454	2004	1128	1382	1624
	55/45	526	650	770	894	-	810	864	936	1276	716	876	1024

Type 21 PLAN			Type 22 PLAN						Type 33 PLAN						20°C	
Height H /mm/															t <sub>1</sub> /t <sub>2</sub> °C/	Length L mm/
550	600	900	300	400	500	550	600	900	300	400	500	550	600	900		
434	461	630	365	458	546	591	628	852	520	654	780	846	902	1245	<b>75/65</b>	<b>400</b>
350	371	507	296	371	441	477	507	687	421	528	630	684	728	1002	<b>70/55</b>	
220	234	318	188	235	280	302	321	434	267	335	399	432	460	630	<b>55/45</b>	<b>500</b>
543	576	788	457	573	682	739	785	1065	650	817	976	1058	1128	1556	<b>75/65</b>	
438	464	634	370	464	552	597	634	859	526	661	788	855	910	1253	<b>70/55</b>	
276	292	398	235	294	350	378	402	543	334	419	499	541	576	787	<b>55/45</b>	
651	691	945	548	688	818	886	942	1277	780	980	1171	1270	1353	1867	<b>75/65</b>	
525	557	761	443	556	662	716	761	1031	631	793	946	1025	1092	1503	<b>70/55</b>	
331	350	478	281	353	419	454	482	651	401	503	599	649	691	944	<b>55/45</b>	
760	806	1103	639	802	955	1034	1099	1490	910	1144	1366	1481	1579	2178	<b>75/65</b>	
613	650	888	517	649	772	835	888	1203	736	925	1103	1196	1274	1754	<b>70/55</b>	<b>700</b>
386	409	557	328	412	489	529	562	760	468	587	699	757	806	1102	<b>55/45</b>	<b>800</b>
868	922	1260	730	917	1091	1182	1256	1703	1040	1307	1561	1693	1804	2490	<b>75/65</b>	
700	742	1014	591	742	882	954	1014	1374	842	1057	1261	1367	1456	2004	<b>70/55</b>	
441	467	637	375	470	559	605	642	868	534	670	798	865	921	1259	<b>55/45</b>	
977	1037	1418	822	1031	1228	1329	1413	1916	1170	1471	1756	1904	2030	2801	<b>75/65</b>	
788	835	1141	665	834	993	1074	1141	1546	947	1189	1418	1538	1638	2255	<b>70/55</b>	<b>900</b>
496	526	716	422	529	629	680	723	977	601	754	898	973	1036	1417	<b>55/45</b>	
1085	1152	1575	913	1146	1364	1477	1570	2129	1300	1634	1951	2116	2255	3112	<b>75/65</b>	
875	928	1268	739	927	1103	1193	1268	1718	1052	1321	1576	1709	1820	2505	<b>70/55</b>	<b>1000</b>
551	584	796	469	588	699	756	803	1085	668	838	998	1081	1151	1574	<b>55/45</b>	
1194	1267	1733	1004	1261	1500	1625	1727	2342	1430	1797	2146	2328	2481	3423	<b>75/65</b>	<b>1100</b>
963	1021	1395	813	1020	1213	1312	1395	1890	1157	1453	1734	1880	2002	2756	<b>70/55</b>	
606	642	876	516	647	769	832	883	1194	735	922	1098	1189	1266	1731	<b>55/45</b>	
1302	1382	1890	1096	1375	1637	1772	1884	2555	1560	1961	2341	2539	2706	3734	<b>75/65</b>	
1050	1114	1522	887	1112	1324	1432	1522	2062	1262	1585	1891	2051	2184	3006	<b>70/55</b>	
661	701	955	563	706	839	907	964	1302	802	1006	1198	1297	1381	1889	<b>55/45</b>	
1519	1613	2205	1278	1604	1910	2068	2198	2981	1820	2288	2731	2962	3157	4357	<b>75/65</b>	
1225	1299	1775	1035	1298	1544	1670	1775	2405	1473	1849	2206	2393	2548	3507	<b>70/55</b>	<b>1400</b>
771	818	1114	657	823	979	1058	1124	1519	935	1173	1397	1513	1611	2204	<b>55/45</b>	
1736	1843	2520	1461	1834	2182	2363	2512	3406	2080	2614	3122	3386	3608	4979	<b>75/65</b>	<b>1600</b>
1400	1485	2029	1182	1483	1765	1909	2029	2749	1683	2114	2522	2734	2912	4008	<b>70/55</b>	
882	934	1274	750	941	1118	1210	1285	1736	1069	1341	1597	1730	1842	2518	<b>55/45</b>	
1953	2074	-	1643	2063	2455	2659	2826	-	2340	2941	3512	3809	4059	-	<b>75/65</b>	
1575	1670	-	1330	1669	1985	2147	2282	-	1894	2378	2837	3076	3276	-	<b>70/55</b>	<b>1800</b>
992	1051	-	844	1058	1258	1361	1445	-	1202	1508	1796	1946	2072	-	<b>55/45</b>	
2170	2304	-	1826	2292	2728	2954	3140	-	2600	3268	3902	4232	4510	-	<b>75/65</b>	
1750	1856	-	1478	1854	2206	2386	2536	-	2104	2642	3152	3418	3640	-	<b>70/55</b>	
1102	1168	-	938	1176	1398	1512	1606	-	1336	1676	1996	2162	2302	-	<b>55/45</b>	<b>2000</b>

# INSTALLATION OF RADIATORS



## Correct position and location of radiator

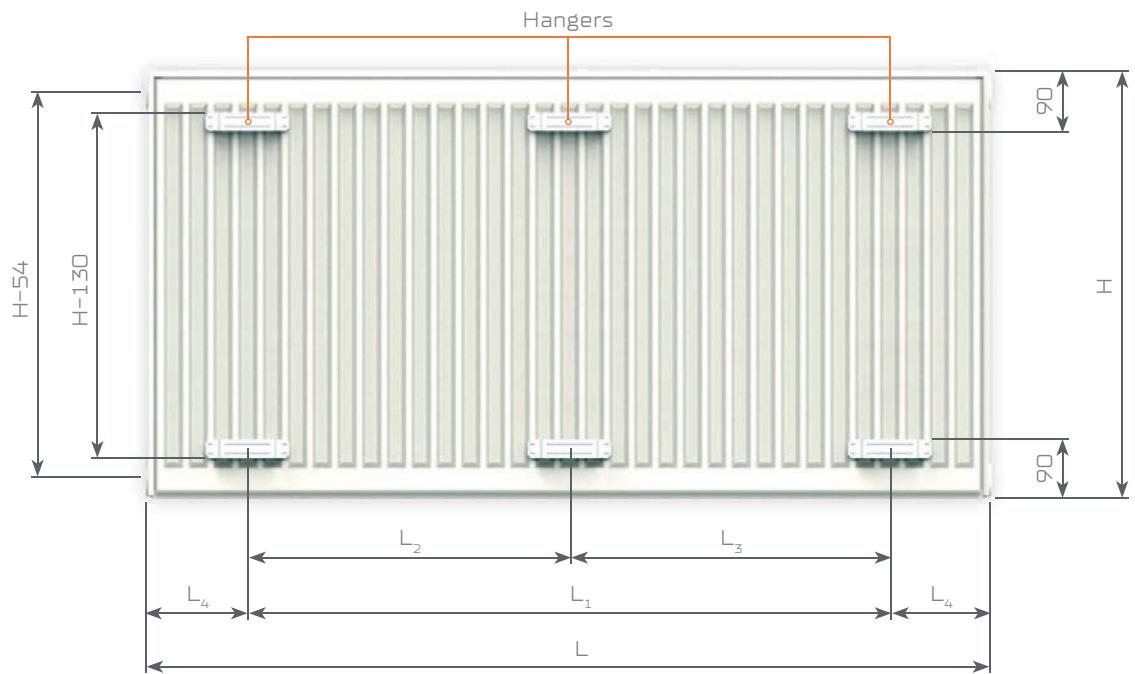
Radiators are usually installed in an angle of 90° with the floor. In justified cases it is possible to install radiators with the gradient of up to 45° without the impact on their heating output [e.g. in the attic]. Other, special installation methods shall be consulted with manufacturer.

## FASTENING METHODS

Hangers located on the back of the radiator serve as mounting points. The method of anchoring depends on the material of the wall that is located behind the radiator.

Position of hangers for types: 10, 20, 21, 22, 33					
LENGTH L [mm]	Number of hangers	L <sub>1</sub> [mm]	L <sub>2</sub> [mm]	L <sub>3</sub> [mm]	L <sub>4</sub> [mm]
400	4	L-200	-	-	100
500 – 1600	4	L-266	-	-	133
2300	6	L-266	1/2.L1+16,5	1/2.L1-16,5	133
1800, 2000, 2600, 3000	6	L-266	1/2.L1	1/2.L1	133

Position of hangers for type 11					
LENGTH L [mm]	Number of hangers	L <sub>1</sub> [mm]	L <sub>2</sub> [mm]	L <sub>3</sub> [mm]	L <sub>4</sub> [mm]
400	4	L-234	-	-	117
500 – 1600	4	L-300	-	-	150
2000	6	L-300	1/2.L1	1/2.L1	150



### Waring

Do not use drill in brackets for KORAD radiators for the walls from air bricks! For this type of walls, it is necessary to use hanging brackets with special anchors.

### Alternative floor installation method

In case it is not possible to anchor radiators to the wall (glass wall, plaster board, etc.), the installation is carried out by means of stand brackets that are anchored into the floor.

## Radiator mounting elements



Stand bracket



Drill-in bracket



Angle bracket



C - bracket

# COLOR CARD

The modern design often pays attention to harmony of all details in the interior. An inseparable part of this space are also radiators. We have prepared a sample book of 67 colors for you that we can use to make a custom-made radiator just for you:



# PACKAGING AND STORAGE

## Packaging for simple logistics

Each radiator is wrapped into PE foil. Radiator edges are protected with U shaped cardboard, corners are protected with plastic angle protector. During storage and transportation, the radiators are stored on non-returnable wooden pallets in accordance with palletization plan.

### Storage of radiators

- ✓ Radiators must be stored packed in original packages.
- ✓ It is not allowed to store radiators in uncovered open area.
- ✓ Stored or transported radiators must not be exposed to strong static pressure.
- ✓ Do not store materials or tools on radiators.
- ✓ Stacking of radiators is possible only if they are packed in original pallets.
- ✓ On an even solid ground it is possible to place two pallets of identical dimensions on each other as.
- ✓ Pallets with radiator type 10 and 11, as well as radiator types in PLAN model can be stored in one layer only.
- ✓ During transportation to the installation location the radiators must not be pulled on the floor, not even in.



Design changes reserved



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