KORATHERM REFLEX

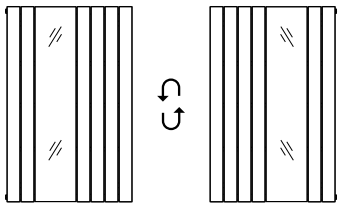
KORATHERM VERTIKAL

KORATHERM VERTIKAL - M

KORATHERM REFLEX

Description

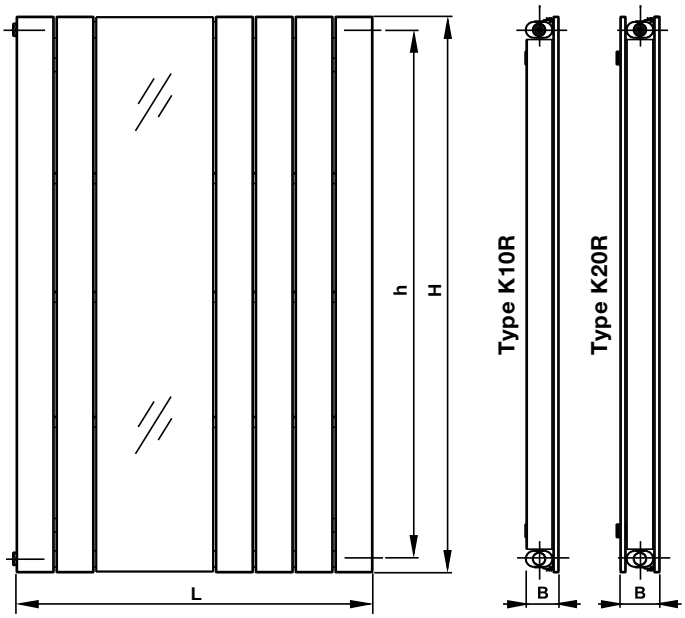
KORATHERM REFLEX is a model of a design series of radiators with vertically aligned profiles, with a 220 × 1800 mm mirror as part of the heating surface. The radiator allows **right or left lateral connection** to the heating system with forced circulation of heat transfer agent. The radiator is supplied with full side covers. Four clips are welded on the back of the radiator. The VERTIKAL split bracket is included in the delivery. It ensures the secure mounting of the radiator. The mirror is glued on the zinc-coated metal bed and can be ordered as a spare part (Z-ND-014) if required. The KORATHERM radiators can be turned and have the mirror placed either on the left or on the right.



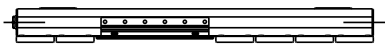
Technical Data

Height H	1800 mm
Length L	514, 662, 810, 958 mm
Depth B Type K10R Type K20R	 61 mm 72 mm
Connecting pitch h	1750 mm
Connecting thread	G ½ inside
Highest allowed working pressure	4 bar
Maximum water temperature	110 °C

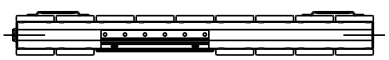
Overview of Types



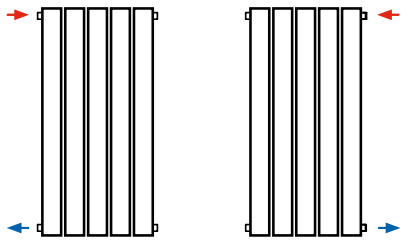
Type K10R



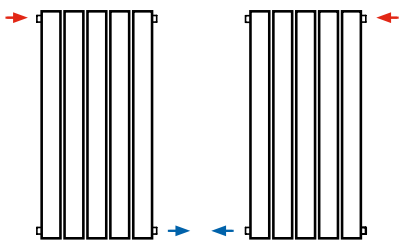
Type K20R



Type of Connection



Side - one side
φ=1



Side - two sides
diagonal
φ=1

KORATHERM VERTIKAL

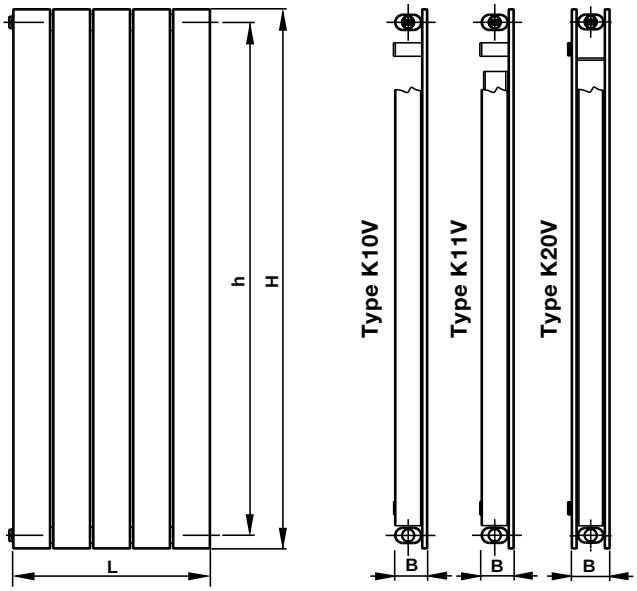
Description

KORATHERM VERTIKAL is a model of a design series of radiators with vertically aligned profiles that allows **right or left side connection** to the heating system with forced circulation of the heat transfer agent. The radiator is supplied with full side covers. Four clips are welded on the back of the radiator. The VERTIKAL split bracket is included in the delivery. It ensures the secure mounting of the radiator.

Technical Data

Height H	500, 600, 700, 800, 900, 1000, 1100, 1200, 1400, 1600, 1800, 2000 mm
Length L	144, 218, 366, 514, 588, 662, 884, 958 mm
Depth B Type K10V Type K11V Type K20V	 61 mm 61 mm 72 mm
Connecting pitch h	H – 50 mm
Connecting thread	G ½ inside
Highest allowed working pressure	4 bar
Maximum water temperature	110 °C

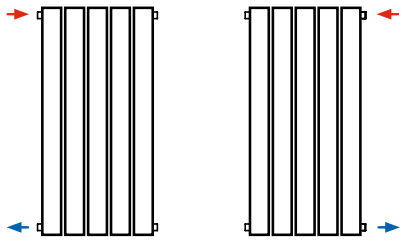
Overview of Types



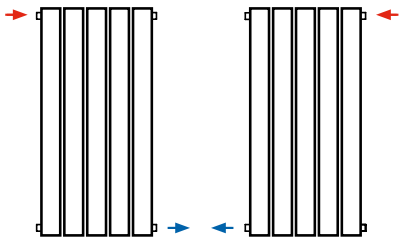
Type K10V, K11V

Type K20V

Type of Connection



Side - one side
φ=1



Side - two sides
diagonal
φ=1

KORATHERM VERTIKAL - M

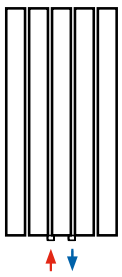
Description

KORATHERM VERTIKAL - M is a model of a design series of radiators with vertically aligned profiles that allows a **bottom middle connection** to the heating system with forced circulation of the heat transfer agent. The radiator is supplied with full side covers. Four clips are welded on the back of the radiator. The VERTIKAL split bracket is included in the delivery. It ensures the secure mounting of the radiator. HM Connection fittings (see page 19) can be used connection to the heating system.

Technical Data

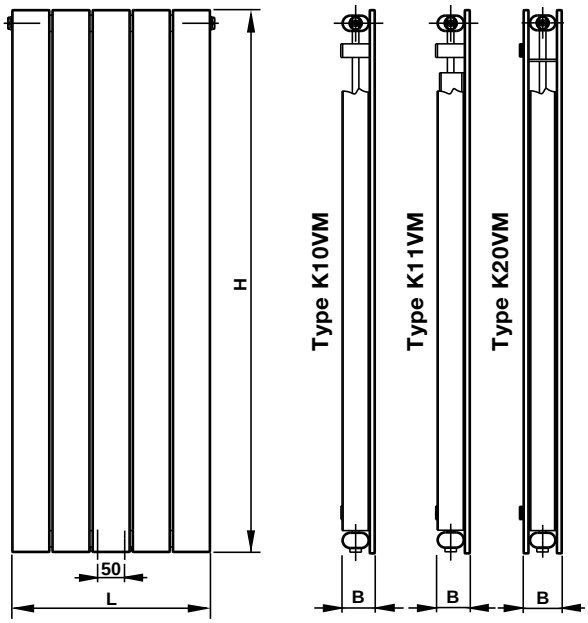
Height H	500, 600, 700, 800, 900, 1000, 1100, 1200, 1400, 1600, 1800, 2000 mm
Length L	144, 218, 366, 514, 588, 662, 884, 958 mm
Depth B Type K10VM Type K11VM Type K20VM	 61 mm 61 mm 72 mm
Connecting pitch h	50 mm
Connecting thread	G ½ inside
Highest allowed working pressure	4 bar
Maximum water temperature	110 °C

Type of Connection



bottom middle
φ=1

Overview of Types



Type K10VM, K11VM

Type K20VM

HM FITTING

Description

HM fitting is specially developed for connecting RADIK MM, RADIK PLAN (LINE) VERTIKAL - M and RADIK PREMIUM steel panel radiators, i.e. radiators without an integrated 50 mm bottom connection valve. Advantageously, it can be also used for all other KORALUX and KORATHERM radiators with the same connection to the heating system.

It is an integrated fitting, i.e. a valve and a regulating shut-off fitting are integrated in the fitting body, so that the radiator can be disconnected from the heating system without interruption of operation. **Due to the special fitting design, the outlets for the supply and return pipe connection are optional.**

The fitting allows the presetting of the flow through the radiator, its closing at the inlet and outlet, and the thermostatic head controlling the heat output of the radiator depending on the temperature in the heated room. The presetting degree is given by the number of turns of the regulating fitting cone from the “closed” position. The presetting of the regulation degree is reproducible, i.e. when the flow is closed and subsequently opened, there is no change in setting of the regulation degree.

Assortment

HM fitting delivery includes:

- integrated fitting in a straight or corner version
- thermostatic head in white or “chrome” shade
- 2 pcs of reduction of G ½ to G ¾ with sealing “O” ring
- 2 pcs of EPDM rubber gasket
- installation instructions and operating instructions

On special request, it is possible to deliver:

- universal fitting cover in white
- universal fitting cover in “chrome” shade

Use

The fitting is designed for two-pipe heating systems with forced circulation. It can be used with the following radiator assortment of KORADO, a.s.:

Product range	Radiator model
RADIK	RADIK PLAN VERTIKAL - M RADIK LINE VERTIKAL - M RADIK MM RADIK PREMIUM (for bottom connection only) RADIK PLAN PREMIUM (for bottom connection only) RADIK LINE PREMIUM (for bottom connection only)
KORALUX	KORALUX LINEAR MAX - M KORALUX LINEAR COMFORT - M KORALUX LINEAR CLASSIC - M KORALUX LINEAR EXCLUSIVE - M
	KORALUX RONDO MAX - M KORALUX RONDO COMFORT - M KORALUX RONDO CLASSIC - M KORALUX RONDO EXCLUSIVE - M
KORATHERM	KORATHERM HORIZONTAL - M
	KORATHERM VERTIKAL - M

Notice:
When using the Z-U580, Z-U581 stand brackets for the KORATHERM HORIZONTAL - M model, the HM FITTING from the length L = 700 mm can be used.

Connection Method

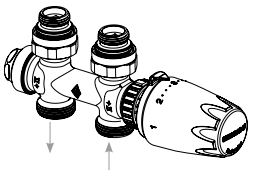
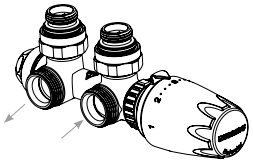
The connection to the heating system is with a G ¾ external thread and clamp connections for copper, plastic, precision steel or multilayer pipes can be used.

The connection of the fitting to the radiator is with a self-sealing double nipple (reduction) from G ½ to G ¾, which is included.

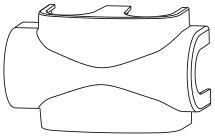
The fitting valve is fitted with M 30 × 1.5 external connection thread for mounting the thermostatic head, which is included in the HM fitting delivery.

How to order

HM FITTING

	Design	Colour of the thermostatic head	Order number
	straight	white	Z-D023
		chrome	Z-D024
	angular	white	Z-D025
		chrome	Z-D026

HM FITTING Cover

	universal	white	Z-D027
		chrome	Z-D028

KORATHERM REFLEX

BASIC TECHNICAL PARAMETERS															
Type	H [mm]	L [mm]	h [mm]	i [prof]	t_1/t_2 [°C]	Heat output **Q** [W] to EN 442 for t_i [°C]					Nominal heat output Q_N [W]	Temperature exponent **n** [-]	K_M [-]	Radiator weight M_T [kg]	Water volume V_T [l]
						15	18	20	22	24					
K10R	1800	514	1750	4	75/65	893	831	791	751	711	791	1,2724	5,4501	22,8	5,1
					70/55	741	682	643	605	567					
					55/45	502	448	413	378	344					
					45/40	370	319	286	254	223					
		662		6	75/65	1227	1142	1086	1031	976	1086	1,2791	7,2892	29,9	7,4
					70/55	1017	936	882	829	777					
					55/45	688	614	565	517	471					
					45/40	506	436	391	347	304					
		810		8	75/65	1561	1452	1381	1310	1241	1381	1,2859	9,0259	40,4	9,7
					70/55	1293	1189	1121	1053	987					
					55/45	873	778	716	655	596					
					45/40	640	552	495	439	385					
		958		10	75/65	1896	1763	1676	1590	1505	1676	1,2926	10,6705	44,0	12,0
					70/55	1568	1442	1358	1276	1196					
					55/45	1057	941	866	792	720					
					45/40	774	667	597	529	464					
K20R	1800	514	1750	4	75/65	1603	1489	1415	1342	1269	1415	1,3063	8,5387	46,3	12,0
					70/55	1323	1215	1144	1075	1006					
					55/45	888	790	726	663	602					
					45/40	648	557	499	442	386					
		662		6	75/65	2126	1976	1877	1779	1683	1877	1,3084	11,2339	60,1	16,3
					70/55	1755	1612	1517	1425	1333					
					55/45	1177	1047	962	879	798					
					45/40	859	738	660	585	511					
		810		8	75/65	2650	2462	2339	2217	2097	2339	1,3104	13,8899	80,5	20,6
					70/55	2187	2008	1890	1775	1661					
					55/45	1466	1303	1198	1094	993					
					45/40	1069	918	821	727	636					
		958		10	75/65	3174	2949	2801	2655	2511	2801	1,3125	16,4974	87,5	24,9
					70/55	2619	2404	2263	2124	1988					
					55/45	1754	1559	1433	1309	1187					
					45/40	1278	1098	982	869	760					

Characteristic equation: $\Phi = K_M \cdot \Delta T^n \left[\frac{W}{m}\right]$, $\Delta T = \frac{t_1 + t_2}{2} - t_i [K]$

t_1 – temperature water-in, t_2 – temperature water-out, t_i – relative air temperature

KORATHERM VERTIKAL, VERTIKAL - M

20 °C	Number of profiles i [pcs]	t_1/t_2 [°C]	Type								
			K10V	K11V	K20V	K10V	K11V	K20V	K10V	K11V	K20V
			K10VM	K11VM	K20VM	K10VM	K11VM	K20VM	K10VM	K11VM	K20VM
Height **H** [mm]			500			600			700		
Length **L** [mm]			Heat output Q [W] to EN 442								
144	2	75/65	90	118	137	107	139	161	124	159	185
		70/55	73	97	111	87	113	131	101	129	150
		55/45	47	63	71	56	73	83	65	84	95
		45/40	33	44	49	39	51	57	45	58	65
218	3	75/65	136	179	207	162	210	244	187	240	281
		70/55	111	146	168	132	172	198	152	196	227
		55/45	72	95	107	85	111	126	98	127	144
		45/40	50	67	73	59	78	86	68	88	99
366	5	75/65	229	301	348	272	353	410	315	403	471
		70/55	187	246	282	221	288	332	256	329	381
		55/45	120	160	179	142	187	211	164	213	242
		45/40	84	112	123	99	130	145	114	148	166
514	7	75/65	322	423	489	382	495	576	442	566	662
		70/55	262	345	396	311	405	466	359	462	536
		55/45	169	224	252	200	262	296	231	299	340
		45/40	117	157	173	139	183	204	160	208	234
588	8	75/65	368	483	559	437	567	659	506	648	757
		70/55	300	395	453	356	463	533	411	529	613
		55/45	193	257	288	229	300	339	264	342	389
		45/40	134	180	198	159	210	233	183	238	267
662	9	75/65	414	544	630	492	638	742	569	730	853
		70/55	337	445	510	400	521	601	463	595	690
		55/45	217	289	324	257	338	382	297	385	438
		45/40	151	202	223	179	236	262	206	268	301
884	12	75/65	553	727	841	657	852	991	760	974	1139
		70/55	451	594	681	534	696	802	618	795	921
		55/45	290	386	433	344	451	510	397	514	585
		45/40	202	270	298	239	315	351	275	359	402
958	13	75/65	600	787	911	712	924	1074	824	1056	1234
		70/55	488	644	738	579	754	869	670	861	998
		55/45	314	418	469	372	489	552	430	557	634
		45/40	219	293	323	259	341	380	298	389	436

BASIC TECHNICAL PARAMETERS

Type	K10V	K11V	K20V	K10V	K11V	K20V	K10V	K11V	K20V
	K10VM	K11VM	K20VM	K10VM	K11VM	K20VM	K10VM	K11VM	K20VM
Height **H** [mm]	500			600			700		
Nominal heat output $\mathbf{Q_N}$ [W/m]	626	822	951	743	964	1121	860	1102	1288
Temperature exponent **n** [-]	1,2638	1,2399	1,2994	1,2682	1,2459	1,3015	1,2725	1,2518	1,3037
$\mathbf{K_M}$ [-]	4,4608	6,4316	5,8957	5,2042	7,3677	6,8928	5,9232	8,2302	7,8518

Weight and water volume see page 30.

Characteristic equation: $\Phi = K_M \cdot \Delta T^n \left[\frac{W}{m}\right]$, $\Delta T = \frac{t_1 + t_2}{2} - t_i$ [K]

t_1 – temperature water-in, t_2 – temperature water-out, t_i – relative air temperature

KORATHERM VERTIKAL, VERTIKAL - M

20 °C	Number of profiles i [pcs]	t_1/t_2 [°C]	Type								
			K10V	K11V	K20V	K10V	K11V	K20V	K10V	K11V	K20V
			K10VM	K11VM	K20VM	K10VM	K11VM	K20VM	K10VM	K11VM	K20VM
Height **H** [mm]			800			900			1000		
Length **L** [mm]			Heat output Q [W] to EN 442								
144	2	75/65	141	178	209	157	197	233	174	216	256
		70/55	114	145	169	128	161	188	141	175	207
		55/45	73	94	107	82	103	119	90	113	131
		45/40	51	65	74	57	72	82	62	78	90
218	3	75/65	213	270	317	238	298	352	263	327	387
		70/55	173	220	256	193	243	285	214	266	313
		55/45	111	142	163	124	156	181	137	171	198
		45/40	77	99	112	86	109	124	94	118	136
366	5	75/65	358	453	532	400	501	591	442	548	650
		70/55	291	369	430	325	408	478	359	446	526
		55/45	186	238	273	208	263	303	229	287	333
		45/40	129	166	187	144	183	208	158	199	228
514	7	75/65	502	636	747	562	704	831	621	770	913
		70/55	408	518	604	456	573	672	504	626	738
		55/45	262	334	383	292	369	426	322	403	468
		45/40	181	233	263	202	257	292	222	279	321
588	8	75/65	574	727	854	643	805	950	710	881	1045
		70/55	467	593	691	522	656	768	576	717	844
		55/45	299	383	438	334	422	487	368	460	535
		45/40	207	266	301	231	293	334	254	320	367
662	9	75/65	647	819	962	724	906	1070	800	992	1176
		70/55	526	667	778	588	738	865	649	807	951
		55/45	337	431	494	376	475	548	415	518	602
		45/40	233	300	339	260	330	376	286	360	413
884	12	75/65	864	1094	1284	966	1210	1429	1068	1324	1571
		70/55	702	891	1039	785	985	1155	867	1077	1270
		55/45	450	575	659	502	635	732	554	692	804
		45/40	312	401	453	347	441	503	383	480	552
958	13	75/65	936	1185	1392	1047	1312	1548	1157		1702
		70/55	761	966	1126	850	1068	1252	939		1376
		55/45	488	623	714	544	688	794	600		872
		45/40	338	434	491	376	478	545	415		598

BASIC TECHNICAL PARAMETERS

Type	K10V	K11V	K20V	K10V	K11V	K20V	K10V	K11V	K20V
	K10VM	K11VM	K20VM	K10VM	K11VM	K20VM	K10VM	K11VM	K20VM
Height **H** [mm]	800			900			1000		
Nominal heat output $\mathbf{Q_N}$ [W/m]	977	1237	1453	1093	1369	1616	1208	1498	1777
Temperature exponent **n** [-]	1,2769	1,2578	1,3058	1,2813	1,2638	1,3079	1,2857	1,2698	1,3101
$\mathbf{K_M}$ [-]	6,6142	9,0241	8,7852	7,2733	9,7554	9,6908	7,9013	10,4270	10,5649

Weight and water volume see page 30.

Characteristic equation: $\Phi = K_M \cdot \Delta T^n \left[\frac{W}{m}\right]$, $\Delta T = \frac{t_1 + t_2}{2} - t_i$ [K]

t_1 – temperature water-in, t_2 – temperature water-out, t_i – relative air temperature

20 °C	Number of profiles i [pcs]	t_1/t_2 [°C]	Type								
			K10V	K11V	K20V	K10V	K11V	K20V	K10V	K11V	K20V
			K10VM	K11VM	K20VM	K10VM	K11VM	K20VM	K10VM	K11VM	K20VM
Height **H** [mm]			1100			1200			1400		
Length **L** [mm]			Heat output Q [W] to EN 442								
144	2	75/65	191	234	279	207	252	302	240	287	347
		70/55	155	190	225	168	205	243	195	233	279
		55/45	99	122	143	107	131	154	124	149	176
		45/40	68	85	98	74	91	105	86	102	120
218	3	75/65	289	354	422	314	382	457	364	435	525
		70/55	234	288	341	254	310	369	295	353	423
		55/45	150	185	216	162	198	233	188	225	266
		45/40	103	128	148	112	137	159	130	155	182
366	5	75/65	485	595	709	527	641	767	611	731	881
		70/55	393	484	573	427	520	619	495	592	710
		55/45	251	310	362	273	333	391	316	378	447
		45/40	173	215	248	188	230	268	218	260	305
514	7	75/65	681	836	996	740	900	1077	858	1026	1237
		70/55	552	679	804	600	731	869	696	832	997
		55/45	353	436	509	383	468	549	443	530	628
		45/40	243	302	349	264	324	376	305	366	429
588	8	75/65	779	956	1139	846	1030	1232	982	1174	1415
		70/55	632	777	920	686	836	994	796	951	1141
		55/45	403	498	582	438	535	628	507	607	719
		45/40	278	345	399	302	370	430	349	418	491
662	9	75/65	876	1076	1282	953	1159	1387	1106	1321	1593
		70/55	711	875	1036	772	941	1119	896	1071	1284
		55/45	454	561	655	493	603	707	571	683	809
		45/40	313	389	449	340	417	484	393	471	552
884	12	75/65	1170	1437	1712	1272	1548	1852	1476	1764	2128
		70/55	949	1168	1383	1032	1257	1495	1196	1430	1715
		55/45	606	749	875	658	805	944	762	912	1080
		45/40	419	519	600	454	557	646	525	629	738
958	13	75/65	1268		1856	1379		2007	1600		2306
		70/55	1029		1499	1118		1620	1296		1859
		55/45	657		948	713		1023	826		1171
		45/40	454		650	492		700	569		799

BASIC TECHNICAL PARAMETERS

Type	K10V	K11V	K20V	K10V	K11V	K20V	K10V	K11V	K20V
	K10VM	K11VM	K20VM	K10VM	K11VM	K20VM	K10VM	K11VM	K20VM
Height **H** [mm]	1100			1200			1400		
Nominal heat output $\mathbf{Q_N}$ [W/m]	1324	1626	1937	1439	1751	2095	1670	1996	2407
Temperature exponent **n** [-]	1,2877	1,2754	1,3142	1,2898	1,2809	1,3184	1,2939	1,2920	1,3266
$\mathbf{K_M}$ [-]	8,5926	11,0727	11,3330	9,2625	11,6701	12,0576	10,5784	12,7377	13,4160

Weight and water volume see page 30.

Characteristic equation: $\Phi = K_M \cdot \Delta T^n \left[\frac{W}{m}\right]$, $\Delta T = \frac{t_1 + t_2}{2} - t_i$ [K]

t_1 – temperature water-in, t_2 – temperature water-out, t_i – relative air temperature

KORATHERM VERTIKAL, VERTIKAL - M

20 °C	Number of profiles i [pcs]	t_1/t_2 [°C]	Type								
			K10V	K11V	K20V	K10V	K11V	K20V	K10V	K11V	K20V
			K10VM	K11VM	K20VM	K10VM	K11VM	K20VM	K10VM	K11VM	K20VM
Height **H** [mm]			1600			1800			2000		
Length **L** [mm]			Heat output Q [W] to EN 442								
144	2	75/65	274	322	391	307	355	435	340	388	478
		70/55	222	261	315	248	288	350	275	314	385
		55/45	141	166	198	158	183	220	175	200	242
		45/40	97	115	135	109	126	150	120	138	165
218	3	75/65	414	487	592	465	538	658	515	587	724
		70/55	336	395	477	376	436	530	417	475	583
		55/45	214	251	300	239	277	334	265	303	367
		45/40	147	173	205	165	191	228	182	208	250
366	5	75/65	695	818	994	780	903	1105	865	985	1215
		70/55	563	663	801	631	731	890	700	798	979
		55/45	359	422	504	402	466	560	445	508	615
		45/40	247	291	344	276	321	382	306	350	420
514	7	75/65	977	1148	1396	1095	1268	1552	1215	1384	1706
		70/55	791	931	1125	887	1027	1250	983	1121	1374
		55/45	504	593	708	564	654	787	625	713	864
		45/40	347	409	483	388	450	537	429	491	589
588	8	75/65	1117	1314	1596	1253	1450	1775	1389	1583	1952
		70/55	905	1065	1286	1015	1175	1430	1124	1282	1572
		55/45	576	678	810	645	748	900	714	816	989
		45/40	397	468	553	444	515	614	491	562	674
662	9	75/65	1258	1479	1797	1411	1632	1999	1564	1782	2198
		70/55	1019	1198	1448	1142	1323	1610	1266	1443	1770
		55/45	649	764	912	726	842	1013	804	919	1113
		45/40	447	526	622	500	580	691	553	632	759
884	12	75/65	1680	1975	2400	1884	2180	2669	2089	2380	2935
		70/55	1360	1600	1934	1525	1766	2150	1691	1927	2364
		55/45	866	1020	1218	970	1125	1353	1074	1227	1487
		45/40	596	703	831	668	775	923	739	845	1013
958	13	75/65	1820		2601	2041		2892	2264		
		70/55	1474		2096	1653		2330	1832		
		55/45	939		1320	1051		1466	1164		
		45/40	646		901	723		1000	800		

BASIC TECHNICAL PARAMETERS

Type	K10V	K11V	K20V	K10V	K11V	K20V	K10V	K11V	K20V
	K10VM	K11VM	K20VM	K10VM	K11VM	K20VM	K10VM	K11VM	K20VM
Height **H** [mm]	1600			1800			2000		
Nominal heat output $\mathbf{Q_N}$ [W/m]	1900	2234	2715	2131	2466	3019	2363	2692	3320
Temperature exponent **n** [-]	1,2966	1,2937	1,3283	1,2993	1,2955	1,3299	1,3020	1,2973	1,3316
$\mathbf{K_M}$ [-]	11,9088	14,1620	15,0324	13,2164	15,5231	16,6113	14,5012	16,8268	18,1464

Weight and water volume see page 30.

Characteristic equation: $\Phi = K_M \cdot \Delta T^n \left[\frac{W}{m}\right]$, $\Delta T = \frac{t_1 + t_2}{2} - t_i$ [K]

t_1 – temperature water-in, t_2 – temperature water-out, t_i – relative air temperature

KORATHERM HORIZONTAL, HORIZONTAL - K HORIZONTAL - M, HORIZONTAL VKM

20 °C	t_1/t_2 [°C]	Type										
		K10H	K11H K11HK K11HM K11HVKM	K20H	K20HK K20HM K20HVKM	K21H K21HK K21HM K21HVKM	K22H K22HK K22HM K22HVKM	K10H	K11H	K20H	K21H	K22H
Height **H** [mm]		884						958				
Number of profiles i [pcs]		12						13				
Length **L** [mm]		Heat output Q [W] to EN 442										
500	75/65	449	666	738	805	837	1119	491	712	800	886	1176
	70/55	366	540	605	660	680	914	400	576	655	719	959
	55/45	236	344	394	430	436	592	258	366	427	460	619
	45/40	164	238	277	303	302	413	179	252	299	318	431
600	75/65	539	799	886	966	1004	1343	589	854	959	1063	1411
	70/55	439	648	725	792	816	1096	480	691	786	863	1150
	55/45	283	413	473	517	523	710	309	439	512	552	743
	45/40	197	285	332	363	362	496	215	302	359	382	518
700	75/65	629	932	1033	1127	1172	1567	687	996	1119	1240	1646
	70/55	512	756	846	923	952	1279	560	806	916	1007	1342
	55/45	331	482	552	603	610	828	361	513	597	644	867
	45/40	230	333	388	424	422	579	251	353	419	445	604
800	75/65	718	1066	1181	1288	1339	1790	786	1138	1279	1417	1881
	70/55	586	864	967	1055	1088	1462	640	921	1047	1150	1534
	55/45	378	551	631	689	697	947	412	586	682	736	991
	45/40	263	380	443	484	483	661	287	403	479	509	690
900	75/65	808	1199	1328	1449	1507	2014	884	1281	1439	1594	2116
	70/55	659	972	1088	1187	1224	1645	720	1037	1178	1294	1725
	55/45	425	620	710	775	784	1065	464	659	768	828	1114
	45/40	296	428	499	545	543	744	323	453	539	573	777
1000	75/65	898	1332	1476	1610	1674	2238	982	1423	1599	1771	2351
	70/55	732	1080	1209	1319	1360	1827	800	1152	1309	1438	1917
	55/45	472	689	788	861	871	1183	515	732	853	920	1238
	45/40	329	475	554	605	603	826	358	504	599	636	863
1100	75/65	988	1465	1624	1771	1841	2462	1080	1565	1759	1948	2586
	70/55	805	1188	1330	1451	1496	2010	880	1267	1440	1582	2109
	55/45	519	758	867	947	958	1302	567	805	938	1012	1362
	45/40	362	523	609	666	664	909	394	554	659	700	949
1200	75/65	1078	1598	1771	1932	2009	2686	1178	1708	1919	2125	2821
	70/55	878	1296	1451	1583	1632	2193	960	1382	1571	1726	2301
	55/45	567	827	946	1033	1046	1420	618	879	1024	1104	1486
	45/40	395	570	665	726	724	992	430	604	719	764	1035
1400	75/65	1257	1865	2066	2254	2344	3133	1375	1992	2239	2479	3291
	70/55	1025	1512	1693	1847	1904	2558	1120	1613	1833	2013	2684
	55/45	661	965	1104	1205	1220	1657	721	1025	1194	1288	1733
	45/40	460	665	775	847	844	1157	502	705	838	891	1208
1600	75/65	1437	2131	2362	2576	2678		1571	2277	2558	2834	
	70/55	1171	1728	1935	2111	2176		1280	1843	2095	2301	
	55/45	756	1102	1262	1377	1394		824	1172	1365	1472	
	45/40	526	760	886	968	965		573	806	958	1018	
1800	75/65	1616	2398	2657	2898	3013		1768	2561	2878		
	70/55	1318	1944	2176	2375	2448		1440	2073	2357		
	55/45	850	1240	1419	1550	1568		928	1318	1535		
	45/40	592	856	997	1089	1086		645	907	1078		
2000	75/65	1796	2664	2952	3220			1964	2846			
	70/55	1464	2160	2418	2638			1600	2304			
	55/45	945	1378	1577	1722			1031	1464			
	45/40	658	951	1108	1210			717	1007			
2300	75/65	2065	3064					2259	3273			
	70/55	1684	2484					1840	2649			
	55/45	1086	1585					1185	1684			
	45/40	756	1093					824	1158			
2600	75/65	2335	3463					2553	3700			
	70/55	1903	2808					2080	2995			
	55/45	1228	1791					1340	1904			
	45/40	855	1236					932	1310			
3000	75/65	2694	3996					2946				
	70/55	2196	3240					2400				
	55/45	1417	2067					1546				
	45/40	987	1426					1075				

The models **KORATHERM HORIZONTAL - M, HORIZONTAL - K** and **KORATHERM HORIZONTAL VKM** are available in lengths up to L = 2000 mm

BASIC TECHNICAL PARAMETERS

Type	K10H	K11H K11HK K11HM K11HVKM	K20H	K20HK K20HM K20HVKM	K21H K21HK K21HM K21HVKM	K22H K22HK K22HM K22HVKM	K10H	K11H	K20H	K21H	K22H
Height **H** [mm]	884						958				
Q_N [W/m]	898	1332	1476	1610	1674	2238	982	1423	1599	1771	2351
n [-]	1,2580	1,2905	1,2274	1,2256	1,2783	1,2476	1,2624	1,3007	1,2300	1,2819	1,2552
K_M [-]	6,5459	8,5503	12,1275	13,3220	11,2710	16,9912	7,0361	8,7772	13,0051	11,7573	17,3263

Weight and water volume see page 31 – 32.

KORATHERM VERTIKAL, VERTIKAL - M

RADIATOR WEIGHT M_T [kg]

Type	K10V, K10VM											
Height **H** [mm]	500	600	700	800	900	1000	1100	1200	1400	1600	1800	2000
Length **L** [mm]	Radiator weight M_T [kg]											
144	3,2	3,8	4,2	4,8	5,3	5,8	6,3	6,8	7,9	8,9	9,9	11,0
218	4,4	5,1	5,7	6,5	7,2	7,9	8,6	9,3	10,7	12,1	13,5	14,9
366	6,7	7,8	8,7	9,9	11,0	12,1	13,2	14,2	16,4	18,6	20,7	22,8
514	9,0	10,5	11,7	13,3	14,8	16,3	17,7	19,2	22,1	25,0	27,9	30,7
588	10,2	11,9	13,1	15,1	16,7	18,4	20,0	21,6	24,9	28,3	31,4	34,6
662	11,3	13,2	14,6	16,8	18,6	20,5	22,3	24,1	27,7	31,5	35,0	38,6
884	14,6	17,0	18,9	21,7	24,0	26,6	28,9	31,2	36,0	40,9	45,5	50,2
958	15,7	18,4	20,4	23,4	25,9	28,7	31,2	33,7	38,8	44,1	49,1	54,1

Type	K11V, K11VM											
Height **H** [mm]	500	600	700	800	900	1000	1100	1200	1400	1600	1800	2000
Length **L** [mm]	Radiator weight M_T [kg]											
144	3,6	4,4	4,8	5,7	6,2	7,0	7,5	7,7	8,7	10,1	11,1	12,4
218	4,9	6,2	6,7	8,0	8,7	9,9	10,6	10,7	12,1	14,1	15,4	17,3
366	7,6	9,6	10,4	12,5	13,5	15,4	16,4	16,6	18,8	21,8	23,9	26,8
514	10,3	12,9	14,1	16,9	18,3	20,9	22,3	22,5	25,4	29,5	32,3	36,3
588	11,6	14,6	15,9	19,1	20,7	23,6	25,2	25,5	28,7	33,4	36,6	41,0
662	13,0	16,3	17,7	21,3	23,1	26,4	28,1	28,4	32,0	37,3	40,8	45,8
884	16,7	21,2	23,0	27,8	30,1	34,4	36,7	37,0	41,7	48,6	53,2	59,8
958	18,1	22,9	24,8	30,0	32,5							

Type	K20V, K20VM											
Height **H** [mm]	500	600	700	800	900	1000	1100	1200	1400	1600	1800	2000
Length **L** [mm]	Radiator weight M_T [kg]											
144	5,2	6,2	6,9	7,9	8,8	9,6	10,5	11,4	13,2	14,9	16,7	18,4
218	7,3	8,7	9,7	11,2	12,4	13,7	14,9	16,1	18,7	21,1	23,6	26,1
366	11,6	13,9	15,4	17,8	19,8	21,7	23,7	25,6	29,7	33,6	37,5	41,4
514	15,9	19,0	21,2	24,4	27,1	29,8	32,4	35,1	40,6	46,0	51,4	56,7
588	18,0	21,6	24,0	27,7	30,7	33,8	36,8	39,9	46,1	52,2	58,3	64,4
662	21,6	27,0	29,7	35,3	38,7	43,5	46,9	48,9	55,9	64,2	71,0	79,2
884	28,2	35,4	38,9	46,3	50,7	57,1	61,6	64,2	73,5	84,4	93,4	104,3
958	30,6	38,2	42,1	50,0	54,9	61,8	66,7	69,5	79,4	91,2	100,9	

WATER VOLUME V_T [l]

Type	K10V, K10VM, K11V, K11VM											
Height **H** [mm]	500	600	700	800	900	1000	1100	1200	1400	1600	1800	2000
Length **L** [mm]	Water volume V_T [l]											
144	0,9	1,0	1,1	1,2	1,3	1,4	1,6	1,7	1,9	2,1	2,4	2,6
218	1,3	1,5	1,6	1,8	2,0	2,1	2,3	2,5	2,8	3,1	3,5	3,8
366	2,2	2,5	2,7	3,0	3,3	3,5	3,8	4,1	4,6	5,2	5,7	6,3
514	3,0	3,4	3,8	4,2	4,6	4,9	5,3	5,7	6,4	7,2	8,0	8,7
588	3,5	3,9	4,3	4,8	5,2	5,6	6,1	6,5	7,4	8,2	9,1	9,9
662	3,9	4,4	4,9	5,4	5,8	6,3	6,8	7,3	8,3	9,2	10,2	11,2
884	5,0	5,7	6,3	7,0	7,6	8,3	8,9	9,5	10,8	12,1	13,4	14,7
958	5,5	6,2	6,9	7,6	8,3	9,0	9,6	10,3	11,7	13,1	14,5	15,9

Type	K20V, K20VM											
Height **H** [mm]	500	600	700	800	900	1000	1100	1200	1400	1600	1800	2000
Length **L** [mm]	Water volume V_T [l]											
144	1,4	1,6	1,9	2,1	2,3	2,5	2,7	2,9	3,4	3,8	4,3	4,7
218	2,1	2,4	2,8	3,1	3,4	3,7	4,1	4,4	5,0	5,7	6,3	7,0
366	3,5	4,0	4,6	5,1	5,7	6,2	6,7	7,3	8,3	9,4	10,5	11,6
514	4,9	5,6	6,4	7,1	7,9	8,6	9,4	10,1	11,6	13,1	14,6	16,1
588	5,6	6,5	7,3	8,2	9,0	9,9	10,7	11,6	13,3	15,0	16,7	18,4
662	6,3	7,3	8,2	9,2	10,1	11,1	12,1	13,0	14,9	16,9	18,8	20,7
884	8,2	9,5	10,8	12,1	13,3	14,6	15,9	17,2	19,7	22,3	24,9	27,4
958	8,9	10,3	11,7	13,1	14,5	15,8	17,2	18,6	21,4	24,2	26,9	

KORATHERM HORIZONTAL, HORIZONTAL - M, HORIZONTAL VKM

WATER VOLUME V_T [l]

Type	K10H								K11H, K11HK, K11HM, K11HVKM							
Height **H** [mm]	144	218	366	514	588	662	884	958	144	218	366	514	588	662	884	958
Length **L** [mm]	Water volume V_T [l]															
500	0,9	1,3	2,2	3,1	3,5	3,9	5,0	5,5	0,9	1,3	2,2	3,1	3,5	3,9	5,0	5,5
600	1,0	1,5	2,5	3,4	3,9	4,4	5,7	6,2	1,0	1,5	2,5	3,4	3,9	4,4	5,7	6,2
700	1,1	1,7	2,7	3,8	4,4	4,9	6,3	6,9	1,1	1,7	2,7	3,8	4,4	4,9	6,3	6,9
800	1,3	1,8	3,0	4,2	4,8	5,4	7,0	7,6	1,3	1,8	3,0	4,2	4,8	5,4	7,0	7,6
900	1,4	2,0	3,3	4,6	5,2	5,9	7,6	8,3	1,4	2,0	3,3	4,6	5,2	5,9	7,6	8,3
1000	1,5	2,2	3,6	5,0	5,6	6,3	8,3	9,0	1,5	2,2	3,6	5,0	5,6	6,3	8,3	9,0
1100	1,6	2,3	3,8	5,3	6,1	6,8	8,9	9,7	1,6	2,3	3,8	5,3	6,1	6,8	8,9	9,7
1200	1,7	2,5	4,1	5,7	6,5	7,3	9,5	10,3	1,7	2,5	4,1	5,7	6,5	7,3	9,5	10,3
1400	1,9	2,8	4,7	6,5	7,4	8,3	10,8	11,7	1,9	2,8	4,7	6,5	7,4	8,3	10,8	11,7
1600	2,2	3,2	5,2	7,2	8,2	9,2	12,1	13,1	2,2	3,2	5,2	7,2	8,2	9,2	12,1	13,1
1800	2,4	3,5	5,7	8,0	9,1	10,2	13,4	14,5	2,4	3,5	5,7	8,0	9,1	10,2	13,4	14,5
2000	2,6	3,8	6,3	8,7	10,0	11,2	14,7	15,9	2,6	3,8	6,3	8,7	10,0	11,2	14,7	15,9
2300	3,0	4,3	7,1	9,9	11,3	12,6	16,6	18,0	3,0	4,3	7,1	9,9	11,3	12,6	16,6	18,0
2600	3,3	4,8	7,9	11,0	12,5	14,1	18,6	20,1	3,3	4,8	7,9	11,0	12,5	14,1	18,6	20,1
3000	3,7	5,5	9,0	12,5	14,3	16,0	21,1	22,9	3,7	5,5	9,0	12,5	14,3	16,0	21,1	

Type	K20H, K20HK, K20HM, K20HVKM								K21H, K21HK, K21HM, K21HVKM							
Height **H** [mm]	144	218	366	514	588	662	884	958	144	218	366	514	588	662	884	958
Length **L** [mm]	Water volume V_T [l]															
500	1,4	2,1	3,5	4,9	5,6	6,3	8,2	8,9	1,4	2,1	3,5	4,9	5,6	6,3	8,2	8,9
600	1,7	2,5	4,1	5,7	6,5	7,3	9,5	10,3	1,7	2,5	4,1	5,7	6,5	7,3	9,5	10,3
700	1,9	2,8	4,6	6,4	7,3	8,2	10,8	11,7	1,9	2,8	4,6	6,4	7,3	8,2	10,8	11,7
800	2,1	3,1	5,1	7,2	8,2	9,2	12,1	13,1	2,1	3,1	5,1	7,2	8,2	9,2	12,1	13,1
900	2,3	3,4	5,7	7,9	9,0	10,2	13,3	14,5	2,3	3,4	5,7	7,9	9,0	10,2	13,3	14,5
1000	2,5	3,8	6,2	8,7	9,9	11,1	14,6	15,8	2,5	3,8	6,2	8,7	9,9	11,1	14,6	15,8
1100	2,8	4,1	6,8	9,4	10,7	12,1	15,9	17,2	2,8	4,1	6,8	9,4	10,7	12,1	15,9	17,2
1200	3,0	4,4	7,3	10,2	11,6	13,0	17,2	18,6	3,0	4,4	7,3	10,2	11,6	13,0	17,2	18,6
1400	3,4	5,1	8,4	11,7	13,3	15,0	19,7	21,4	3,4	5,1	8,4	11,7	13,3	15,0	19,7	21,4
1600	3,9	5,7	9,4	13,2	15,0	16,9	22,3	24,2	3,9	5,7	9,4	13,2	15,0	16,9	22,3	24,2
1800	4,3	6,4	10,5	14,7	16,7	18,8	24,9	26,9	4,3	6,4	10,5	14,7	16,7	18,8	24,9	
2000	4,7	7,0	11,6	16,2	18,4	20,7	27,4		4,7	7,0	11,6	16,2	18,4	20,7		
2300	5,4	8,0	13,2	18,4	21,0	23,6			5,4	8,0	13,2	18,4	21,0	23,6		
2600	6,0	9,0	14,8	20,7	23,6	26,5			6,0	9,0	14,8	20,7	23,6			
3000	6,9	10,3	17,0	23,6	27,0				6,9	10,3	17,0	23,6				

Type	K22H, K22HK, K22HM, K22HVKM								K23H, K23HM		K44H, K44HM		K46H, K46HM	
Height **H** [mm]	144	218	366	514	588	662	884	958	144	218	144	218	144	218
Length **L** [mm]	Water volume V_T [l]													
500	1,8	2,6	4,3	6,1	6,9	7,8	10,0	10,9	1,8	2,6	3,5	5,2	3,5	5,2
600	2,0	2,9	4,9	6,8	7,8	8,7	11,3	12,3	2,0	2,9	4,0	5,9	4,0	5,9
700	2,2	3,3	5,4	7,6	8,6	9,7	12,6	13,7	2,2	3,3	4,4	6,5	4,4	6,5
800	2,4	3,6	6,0	8,3	9,5	10,7	13,9	15,0	2,4	3,6	4,8	7,2	4,8	7,2
900	2,6	3,9	6,5	9,1	10,3	11,6	15,1	16,4	2,6	3,9	5,3	7,8	5,3	7,8
1000	2,9	4,2	7,0	9,8	11,2	12,6	16,4	17,8	2,9	4,2	5,7	8,5	5,7	8,5
1100	3,1	4,6	7,6	10,6	12,0	13,5	17,7	19,2	3,1	4,6	6,2	9,2	6,2	9,2
1200	3,3	4,9	8,1	11,3	12,9	14,5	19,0	20,6	3,3	4,9	6,6	9,8	6,6	9,8
1400	3,7	5,6	9,2	12,8	14,6	16,4	21,5	23,4	3,7	5,6	7,5	11,1	7,5	11,1
1600	4,2	6,2	10,3	14,3	16,3	18,4			4,2	6,2	8,4	12,4	8,4	12,4
1800	4,6	6,9	11,3	15,8	18,0	20,3			4,6	6,9	9,2	13,7	9,2	13,7
2000	5,1	7,5	12,4	17,3	19,7	22,2			5,1	7,5	10,1	15,0	10,1	15,0
2300	5,7	8,5	14,0	19,5	22,3				5,7	8,5	11,4	17,0	11,4	17,0
2600	6,4	9,5	15,6	21,8					6,4	9,5	12,7	18,9	12,7	18,9
3000	7,2	10,8	17,8						7,2	10,8	14,5	21,5	14,5	21,5

The models **KORATHERM HORIZONTAL - M, HORIZONTAL - K** and **KORATHERM HORIZONTAL VKM** are available in lengths up to L = 2000 mm

PRESSURE LOSSES

Type	K10V K11V K10R	K20V K20R	K10VM K11VM	K20VM	K10H K11H	K20H K21H K22H K23H	K11HK	K20HK K21HK K22HK	K11HM	K20HM K21HM K22HM K23HM	K44H K46H	K44HM K46HM
Flow coefficient A_T [m²]	$1,2 \times 10^{-4}$	$7,9 \times 10^{-5}$	$2,16 \times 10^{-5}$	$3,31 \times 10^{-8}$	$1,2 \times 10^{-4}$	$7,22 \times 10^{-5}$	$3,00 \times 10^{-5}$	$3,30 \times 10^{-5}$	$2,44 \times 10^{-5}$	$2,76 \times 10^{-5}$	$5,29 \times 10^{-5}$	$4,18 \times 10^{-5}$
Coefficient of resistance ξ_T [-]	5,6	12,9	173,5	73,8	5,6	15,5	89,8	74,2	135,3	105,7	28,9	46,3

Mounting on the wall

KORATHERM design radiators have two upper and two lower clips welded to the back of the radiator, with the exception of models 10, 11, and 20 with a length of L = 144 mm, where there is only one upper and one lower clip. The HORIZONTAL version with a length of L = 1800 mm or longer has six welded clips.

The minimum number of the brackets shown in this catalogue under individual bracket types has been determined by calculating the weight of the radiator, the heat-transfer agent, plus an added „random load weight" of 80 kg. When choosing another type of bracket than the one mentioned in the catalogue, it is necessary to check the maximum vertical load allowed for the bracket. The necessary information about the maximum vertical load for individual brackets is listed in the KORAMONT catalogue.

18/120 Drill-in Bracket

For mounting the KORATHERM HORIZONTAL radiators on the wall, we recommend using the 18/120 drill-in bracket (Order No. Z-U144).

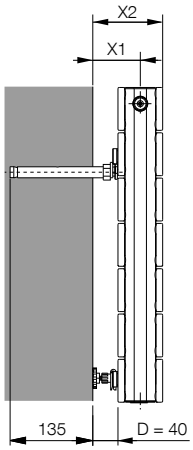
- The set includes two brackets and two supports
- The set allows wall mounting at a distance of D = 35 ÷ 65 mm from the wall, at the distance D = 65 ÷ 80 mm, it is also necessary to use the bracket (not the support) for the lower line
- Metal parts are galvanized
- Preferably for use on walls made from solid or perforated bricks or cellular concrete
- For drilling into walls, it is necessary to use a ∅ 18 mm drill bit
- Maximum vertical load of the bracket is **1000 N** at **D = 50 mm**

Number of Brackets

For mounting the radiators, it is always necessary to use a minimum of two 18/120 drill-in brackets; for radiators 1800 mm in length or longer, use a minimum of three brackets.

Type	Order number
Drill-in Bracket 18/120	Z - U144

Positioning



Type	K10V K10VM K10H K10R	K11V K11VM K11H K11HK K11HM K11HVKM	K20V K20VM K20H K20HK K20HM K20R K20HVKM	K21H K21HK K21HM K21HVKM	K22H K22HK K22HM K22HVKM
X1 [mm]	63	63	76	76	75
X2 [mm]	99	99	112	112	155

Values **X1** and **X2** are dependent on the type of fixing bracket actually used.

VERTIKAL Split Bracket

For mounting the KORATHERM VERTIKAL and REFLEX radiators, it is recommended to use preferentially the VERTIKAL split bracket (Order No. Z-U558), which is included in a standard delivery.

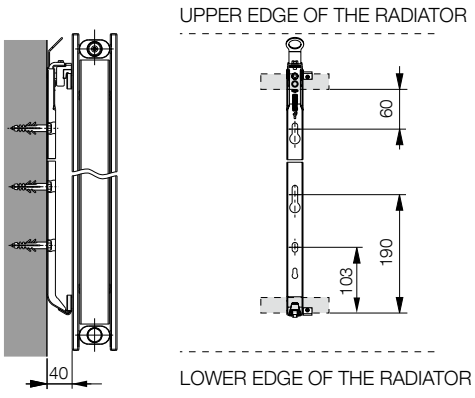
- Set includes: 2× bracket, screws 7×60 mm, dowels plugs ∅ 10 mm, 4×safety catch against lifting and move
- Designed for all models and types with welded clips with radiator heights **H = 500 mm** and higher
- Zinc-coated metal parts
- Equipped with a safety catch to prevent the radiator from lifting and move
- Enables wall mounting at a distance of **D = 40 mm** from the wall
- Use for concrete structures and masonry from porous concrete and solid bricks, for a different type of material it is necessary to choose an appropriate type of anchors
- Maximum vertical load of the bracket is **1500 N**
- Maximum horizontal load in the longitudinal and transverse directions is **250 N**

Number of Brackets

For mounting KORATHERM radiators it is always necessary to use the number of brackets corresponding to the number of upper welded clips (see Mounting to the wall). For mounting KORATHERM HORIZONTAL radiators of type 10 and 11, it is possible to use three brackets from radiators of the length L = 2300 mm and longer.

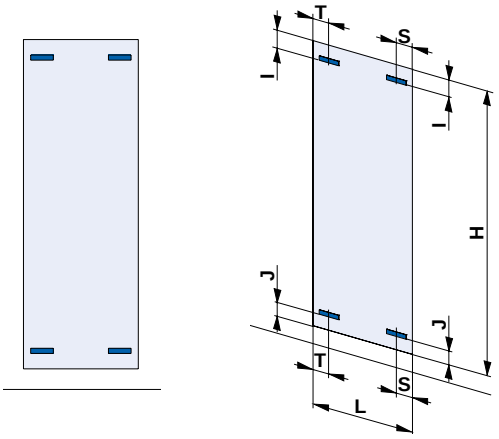
Type	Order number
VERTIKAL Split Bracket	Z - U558

Positioning



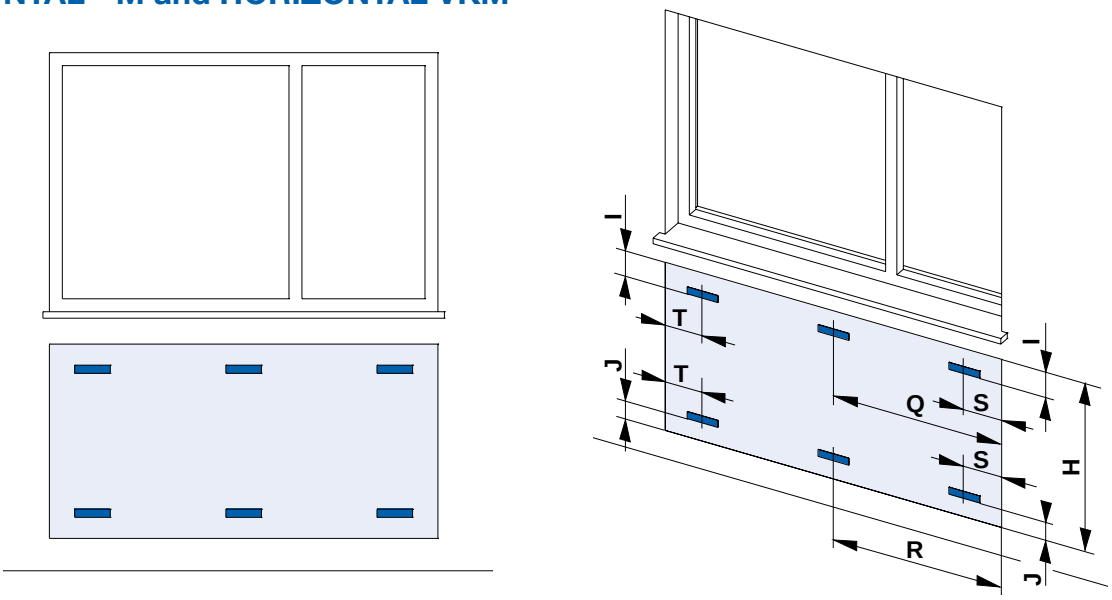
DATA FOR WALL MOUNTING

Location of hangers for KORATHERM VERTIKAL, VERTIKAL - M and REFLEX



KORATHERM VERTIKAL, KORATHERM VERTIKAL - M, KORATHERM REFLEX				
K10V K10VM K10R K11V K11VM K20V K20VM K20R	L [mm]	144	218	366 ÷ 958
	I	90	90	90
	J	65	65	65
	T	72	60	80
	S	-	60	80

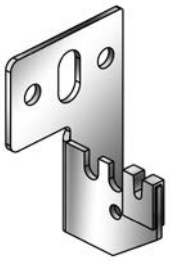
Location of hangers for KORATHERM HORIZONTAL, HORIZONTAL - K, HORIZONTAL - M and HORIZONTAL VKM



KORATHERM HORIZONTAL, KORATHERM HORIZONTAL - K, KORATHERM HORIZONTAL - M, KORATHERM HORIZONTAL VKM							
H [mm]	L [mm]	500 ÷ 1600	1800	2000	2300	2600	3000
144	I	50	50	50	50	50	50
	J	5	5	5	5	5	5
	S, T	160	160	160	160	160	160
	Q	-	900	1000	1150	1300	1500
	R	-	-	-	-	-	-
218	I	50	50	50	50	50	50
	J	25	25	25	25	25	25
	S, T	160	160	160	160	160	160
	Q	-	900	1000	1150	1300	1500
	R	-	-	-	-	-	-
366 ÷ 958	I	125	125	125	125	125	125
	J	25	25	25	25	25	25
	S, T	160	160	160	160	160	160
	Q	-	900	1000	1150	1300	1500
	R	-	900 *	1000 *	1150	1300	1500

* valid for types 20, 21 and 22.

Single wall bracket



- The set includes two brackets, two supports, 8 x 60 mm screws, and ø 10 mm expansion plugs
- Metal parts are galvanized
- For use in concrete construction and cellular concrete or solid brick construction
- For wall mounting at a distance of **D = 40** mm from the wall
- Maximum vertical load for the bracket is **500 N**

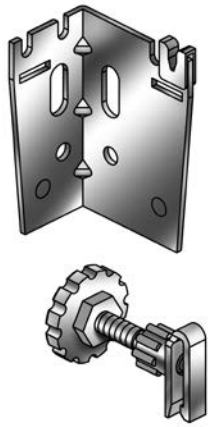
Type	Order number
Single wall bracket	Z-U320

Number of brackets for KORATHERM HORIZONTAL, HORIZONTAL - K, HORIZONTAL - M, HORIZONTAL VKM

KORATHERM HORIZONTAL, HORIZONTAL - K, HORIZONTAL - M, HORIZONTAL VKM																
Type	**H** [mm]	**L** [mm]														
		500	**600**	**700**	**800**	**900**	**1000**	**1100**	**1200**	**1400**	**1600**	**1800**	**2000**	**2300**	**2600**	**3000**
K10H	**144**	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	218	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	366	2	2	2	2	2	2	2	2	2	4	3	3	3	3	3
	514	2	2	2	2	2	2	4	4	4	4	3	3	3	3	3
	588	2	2	2	2	4	4	4	4	4	4	3	3	3	3	3
	662	2	2	2	4	4	4	4	4	4	4	3	3	3	3	3
	884	2	4	4	4	4	4	4	4	4	4	3	3	6	6	6
	958	4	4	4	4	4	4	4	4	4	4	3	3	6	6	6
K11H K11HK K11HM K11HVKM	**144**	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	218	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	366	2	2	2	2	2	2	2	2	4	4	3	3	3	3	3
	514	2	2	2	2	4	4	4	4	4	4	3	3	3	3	3
	588	2	2	2	4	4	4	4	4	4	4	3	3	3	3	6
	662	2	2	4	4	4	4	4	4	4	4	3	3	3	6	6
	884	4	4	4	4	4	4	4	4	4	4	5	5	6	6	6
	958	4	4	4	4	4	4	4	4	4	4	5	5	6	6	
K20H K20HK K20HM K20HVKM	**144**	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	218	2	2	2	2	2	2	2	2	4	4	3	3	3	3	3
	366	2	2	2	4	4	4	4	4	4	4	3	3	3	3	6
	514	2	4	4	4	4	4	4	4	4	4	3	6	6	6	6
	588	4	4	4	4	4	4	4	4	4	4	6	6	6	6	6
	662	4	4	4	4	4	4	4	4	4	4	6	6	6	6	
	884	4	4	4	4	4	4	4	4	4	4	6	6			
	958	4	4	4	4	4	4	4	4	4	4	6				
K21H K21HK K21HM K21HVKM	**144**	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	218	2	2	2	2	2	2	2	4	4	4	3	3	3	3	3
	366	2	2	4	4	4	4	4	4	4	4	3	3	3	6	6
	514	4	4	4	4	4	4	4	4	4	4	6	6	6	6	6
	588	4	4	4	4	4	4	4	4	4	4	6	6	6	6	
	662	4	4	4	4	4	4	4	4	4	4	6	6	6		
	884	4	4	4	4	4	4	4	4	4	4	6				
	958	4	4	4	4	4	4	4	4	4	4					
K22H K22HK K22HM K22HVKM	**144**	2	2	2	2	2	2	2	2	2	4	3	3	3	3	3
	218	2	2	2	2	2	4	4	4	4	4	3	3	3	3	3
	366	2	4	4	4	4	4	4	4	4	4	3	3	6	6	6
	514	4	4	4	4	4	4	4	4	4	4	6	6	6	6	
	588	4	4	4	4	4	4	4	4	4	4	6	6	6		
	662	4	4	4	4	4	4	4	4	4	4	6	6			
	884	4	4	4	4	4	4	4	4	4						
	958	4	4	4	4	4	4	4	4	4						

DATA FOR WALL MOUNTING

Single wall bracket - angular



- The set includes two brackets, two supports, 8 x 60 mm screws, and ø 10 mm expansion plugs
- Metal parts are galvanized
- For use in concrete construction and cellular concrete or solid brick construction
- For wall mounting at a distance of **D = 54 mm or 36 mm** from the wall
- Maximum vertical load for the bracket is **700 N**

Type	Order number
Single wall bracket - angular	Z-U300

Number of brackets for KORATHERM HORIZONTAL, HORIZONTAL - K, HORIZONTAL - M, HORIZONTAL VKM

KORATHERM HORIZONTAL, HORIZONTAL - K, HORIZONTAL - M, HORIZONTAL VKM																
Type	**H** [mm]	**L** [mm]														
		500	**600**	**700**	**800**	**900**	**1000**	**1100**	**1200**	**1400**	**1600**	**1800**	**2000**	**2300**	**2600**	**3000**
K10H	**144**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	218	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	366	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	514	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	588	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	662	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	884	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	958	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
K11H K11HK K11HM K11HVKM	**144**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	218	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	366	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	514	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	588	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	662	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	884	2	2	2	2	2	2	2	2	2	4	3	3	3	3	3
	958	2	2	2	2	2	2	2	2	2	4	3	3	3	3	
K20H K20HK K20HM K20HVKM	**144**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	218	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	366	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	514	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	588	2	2	2	2	2	2	2	2	2	4	3	3	3	3	3
	662	2	2	2	2	2	2	2	2	4	4	3	3	3	3	
	884	2	2	2	2	2	4	4	4	4	4	3	3			
	958	2	2	2	2	4	4	4	4	4	4	3				
K21H K21HK K21HM K21HVKM	**144**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	218	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	366	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	514	2	2	2	2	2	2	2	2	2	4	3	3	3	3	3
	588	2	2	2	2	2	2	2	2	4	4	3	3	3	3	
	662	2	2	2	2	2	2	2	4	4	4	3	3	3		
	884	2	2	2	2	4	4	4	4	4	4	3				
	958	2	2	2	2	4	4	4	4	4	4					
K22H K22HK K22HM K22HVKM	**144**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	218	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	366	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
	514	2	2	2	2	2	2	2	2	4	4	3	3	3	3	
	588	2	2	2	2	2	2	2	4	4	4	3	3	3		
	662	2	2	2	2	2	2	4	4	4	4	3	3			
	884	2	2	2	4	4	4	4	4	4						
	958	2	2	4	4	4	4	4	4	4						

DATA FOR MOUNTING ON THE FLOOR
FOR TYPES 20, 21, 22

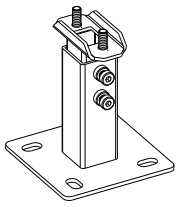
Mounting on the Floor

KORATHERM design radiators in HORIZONTAL version, specifically types 20, 21 and 22 up to a maximum height of H_{max} **= 588 mm**, can be mounted on the floor using special stand brackets. These radiators can be also ordered even without welded wall mounting clips (see position 11 in the ordering code on page 40).

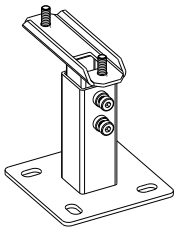
For covering the base plate of the stand bracket, it is possible to order a split plastic cover.

KORATHERM stand bracket

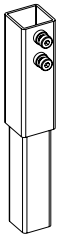
- The set contains one bracket, complete material for mounting and mounting instructions
- Use up to a height of H_{max} **= 588 mm**
- Individual parts painted with white as standard
- The maximum vertical load on the bracket is **1000 N**



for type 20, 21



for type 22



Extension piece for stand brackets RADIK and KORATHERM

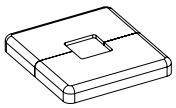
Number of Brackets

For mounting the **KORATHERM HORIZONTAL** models up to a length of L = 2000 mm, it is necessary to use two stand brackets and three stand brackets are necessary for lengths of L = 2300, 2600, and 3000 mm. The **KORATHERM HORIZONTAL – M** and **KORATHERM HORIZONTAL VKM** models are mounted to the floor using two stand brackets (manufactured up to a length of 2000 mm).

Type	Order number
KORATHERM stand bracket for types 20 and 21	Z-U580-XY
KORATHERM stand bracket for type 22	Z-U581-XY
Cover for KORATHERM stand brackets - white	Z-U582
Extension piece for stand brackets RADIK and KORATHERM	Z-U402

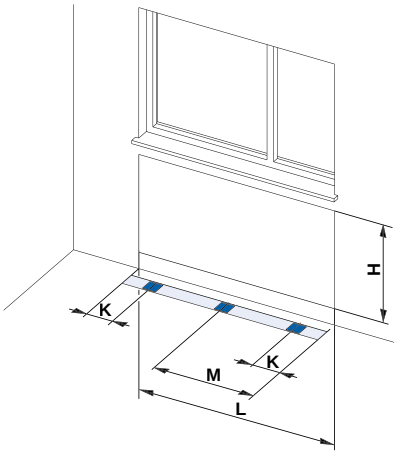
We offer stand brackets in the colours according to KORADO colour chart.

Order codes of stand brackets are Z-U580-XY and Z-U581-XY. XY positions indicate the colour code (see colour chart on page 43).
The basic colour is white RAL 9016, other colour shades are subject to an additional charge (see the colour chart on page 43).



Cover for KORATHERM stand brackets

Location of stand brackets



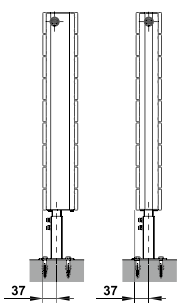
KORATHERM table of sizes

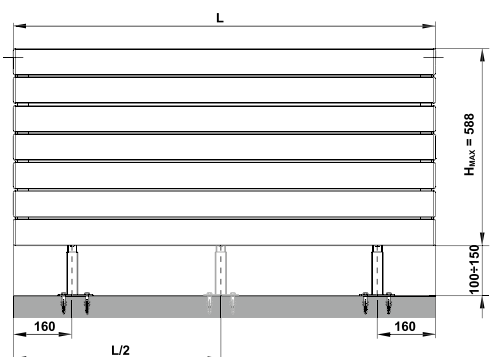
HORIZONTAL, HORIZONTAL - K, HORIZONTAL - M, HORIZONTAL VKM					
Type	**L** [mm]	**500 ÷ 2000**	**2300 ***	**2600 ***	**3000 ***
20 21 22	**K**	160	160	160	160
	M	-	1150	1300	1500
	K	160	160	160	160
	M	-	1150	1300	1500
	K	160	160	160	160
	M	-	1150	1300	1500

* KORATHERM HORIZONTAL - K, KORATHERM HORIZONTAL VKM and KORATHERM HORIZONTAL - M is available in lengths up to L = 2000 mm

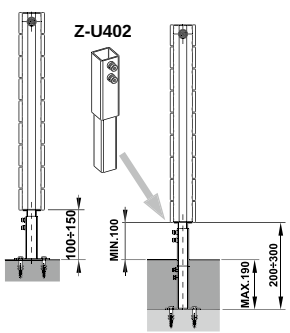
Positioning

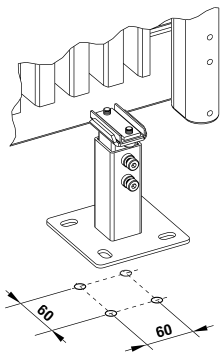
Type 22 Type 20, 21





(Valid length L = 2300 ÷ 3000 mm)





DATA FOR MOUNTING ON THE FLOOR
FOR TYPES 23, 44, 46

Mounting on the Floor

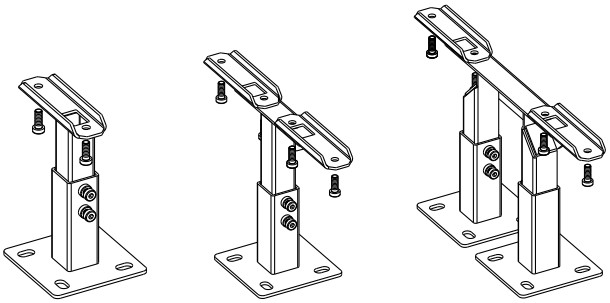
KORATHERM design radiators in HORIZONTAL version, specifically types 23, 44 and 46 with heights of 144 or 218 mm are mounted on the floor using stand brackets.

For covering the base plate of the stand bracket, it is possible to order a split plastic cover.

KORATHERM stand bracket

The set contains one bracket, complete material for mounting and mounting instructions.

- Individual parts painted with white RAL 9016 as standard
- The maximum vertical load on the bracket is **1000 N**



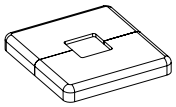
pro typ 23 pro typ 44 pro typ 46

Number of Brackets

For mounting the **KORATHERM HORIZONTAL** models up to a length of L = 2000 mm, it is necessary to use two stand brackets, and three stand brackets are necessary for lengths of L = 2300, 2600 and 3000 mm. The **KORATHERM HORIZONTAL - M** model is only manufactured up to a length of 2000 mm.

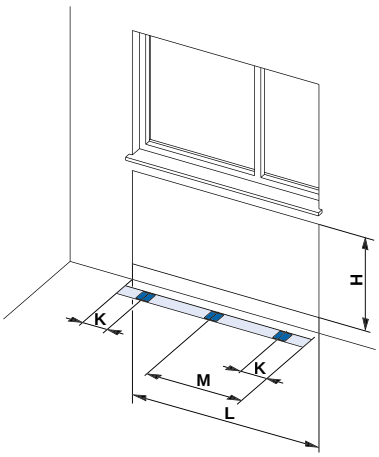
Type	Order number
KORATHERM stand bracket for types 23	Z-U581-XY
KORATHERM stand bracket for type 44	Z-U583-XY
KORATHERM stand bracket for type 46	Z-U584-XY
Cover for KORATHERM stand brackets - white	Z-U582

XY positions indicate the colour code (see colour chart on page 43).
The basic colour is white RAL 9016, other colour shades are subject to an additional charge (see the colour chart on page 43).



Cover for KORATHERM stand brackets

Location of stand brackets



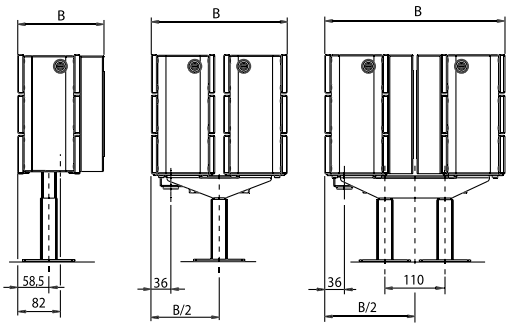
KORATHERM table of sizes

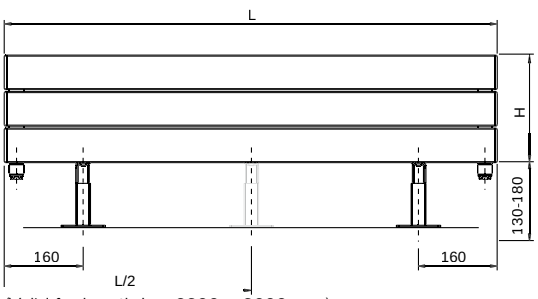
HORIZONTAL, HORIZONTAL - M, HORIZONTAL VKM					
Type	**L** [mm]	**500 ÷ 2000**	**2300***	**2600***	**3000***
23 44 46	**K**	160	160	160	160
	M	-	1150	1300	1500
	K	160	160	160	160
	M	-	1150	1300	1500
	K	160	160	160	160
	M	-	1150	1300	1500

* KORATHERM HORIZONTAL - M
is available in lengths up to L = 2000 mm

Positioning

Type 23 Type 44 Type 46

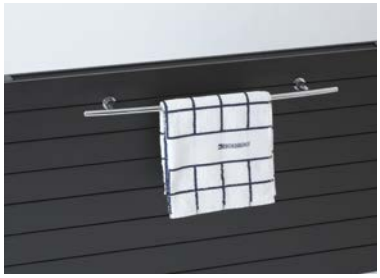


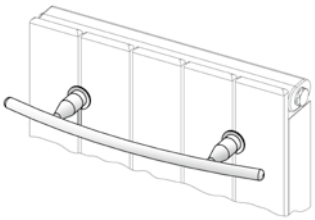


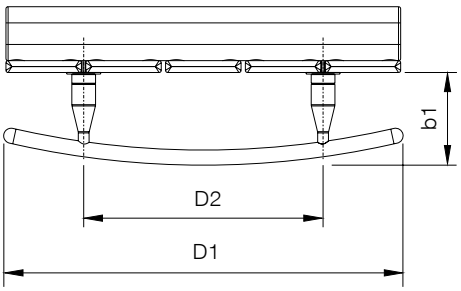
(Valid for length L = 2300 ÷ 3000 mm)

Towel hanger for KORATHERM

- designed for use with all models of KORATHERM towel rail radiators except for the VERTIKAL and HORIZONTAL
- simple fitting and removal
- manufactured from stainless steel
- the choice of length of the hanger **D1** depends on the length of the radiator **L**
- maximum vertical load on the hanger is **50 N** (up to 5 kg)
- the set contains 1 pc of the Towel hanger for KORATHERM



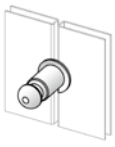


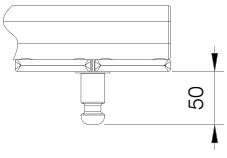


Type	D1 [mm]	D2 [mm]	b1 [mm]	min radiator lenght L [mm]	Order number
Towel hanger for KORATHERM 370	370	222	86	366	Z-D035
Towel hanger for KORATHERM 518	518	370	102	514	Z-D036

Towel peg for KORATHERM

- designed for use with all models of KORATHERM towel rail radiators except for the VERTIKAL and HORIZONTAL model
- simple fitting and removal
- manufactured from stainless steel
- maximum vertical load on peg is **50 N** (up to 5 kg)
- the set contains 1 pc of the Towel peg for KORATHERM





Type	Order number
Towel peg for KORATHERM	Z-D038

INFORMATION FOR ORDERING

Table for Creation of a Code

Position	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.		12.	13.	14.			15.	16.
Items KORATHERM	**K**	**T**	**T**	**P**	**H**	**H**	**H**	**L**	**L**	**L**	**-**	**N**	**0**	**0**	**-**	**M**	**V**	**X**	**X**

Order code – meaning of the items

Position	ITEMS - Description		Code
1.	KORATHERM flat panel radiators		**K**
2. ÷ 3.	Type **T**		**10, 11, 20, 21, 22, 23, 44, 46**
4.	Version **P**	VERTIKAL	**V**
		HORIZONTAL	**H**
		REFLEX	**R**
5. ÷ 7.	Height **H** v cm*		**HHH**
8. ÷ 10.	Length **L** v cm*		**LLL**
11.	Hangers	YES	**-**
		NO	**N**
12. ÷ 13.	Additinal information		**00**
14.	Type of connection	universal lateral	**K**
		central bottom connection	**M**
		HORIZONTAL VKM	**V**
		bottom connection	**-**
		side	**-**
15. ÷ 16.	Colour code		**XX**

* to be rounded down, e.g. 366 mm = 36 cm

How to order

Model	Model number	Order code
KORATHERM VERTIKAL	K10V	K 10 V HHH LLL - 00 - XY
	K11V	K 11 V HHH LLL - 00 - XY
	K20V	K 20 V HHH LLL - 00 - XY
KORATHERM VERTIKAL - M	K10VM	K 10 V HHH LLL - 00 M XY
	K11VM	K 11 V HHH LLL - 00 M XY
	K20VM	K 20 V HHH LLL - 00 M XY
KORATHERM HORIZONTAL	K10H	K 10 H HHH LLL - 00 - XY
	K11H	K 11 H HHH LLL - 00 - XY
	K20H	K 20 H HHH LLL - 00 - XY
	K21H	K 21 H HHH LLL - 00 - XY
	K22H	K 22 H HHH LLL - 00 - XY
	K23H	K 23 H HHH LLL - 00 - XY
	K44H	K 44 H HHH LLL - 00 - XY
	K46H	K 46 H HHH LLL - 00 - XY
KORATHERM HORIZONTAL - K	K11HK	K 11 H HHH LLL - 00 K XY
	K20HK	K 20 H HHH LLL - 00 K XY
	K21HK	K 21 H HHH LLL - 00 K XY
	K22HK	K 22 H HHH LLL - 00 K XY
KORATHERM HORIZONTAL - M	K11HM	K 11 H HHH LLL - 00 M XY
	K20HM	K 20 H HHH LLL - 00 M XY
	K21HM	K 21 H HHH LLL - 00 M XY
	K22HM	K 22 H HHH LLL - 00 M XY
	K23HM	K 23 H HHH LLL - 00 M XY
	K44HM	K 44 H HHH LLL - 00 M XY
	K46HM	K 46 H HHH LLL - 00 M XY
KORATHERM HORIZONTAL VKM	K11HVKM	K 11 H HHH LLL - 00 V XY
	K20HVKM	K 20 H HHH LLL - 00 V XY
	K21HVKM	K 21 H HHH LLL - 00 V XY
	K22HVKM	K 22 H HHH LLL - 00 V XY
KORATHERM REFLEX	K10R	K 10 R HHH LLL - 00 - XY
	K20R	K 20 R HHH LLL - 00 - XY

Practical examples of stock codes

KORATHERM VERTIKAL with side connection for mounting on the wall, type 11, height H = 2000 mm, length L = 366 mm, colour white RAL 9016

K TT P HHH LLL - 00 - XY
K 11 V 200 036 - 00 - 10

KORATHERM HORIZONTAL - M with bottom middle connection for mounting NMSGDkNNQ, SXOD, GDHFGS'LL, KDMFSG+LL, BNKNTQ2HKADQ

K TT P HHH LLL N 00 M XY
K 22 H 021 200 N 00 M 35

KORATHERM HORIZONTAL with bottom connection, type 11, height H = 662 mm, length L = 1200 mm, colour Alloy Black

K TT P HHH LLL - 00 - XY
K 11 H 066 120 - 00 - 40

KORATHERM REFLEX with side connection for mounting on the wall, type 10, height H = 1800 mm, length L = 958, colour Anthrazit Metallic

K TT P HHH LLL - 00 - XY
K 10 R 180 095 - 00 - 32

That is why the guaranty claims resulting from the title of corrosion or from a change of the surface appearance cannot be applied on those radiators which are placed within reach of water spray or within reach of aggressive solutions (C2 – C5 spaces). In case it is necessary to place radiators within such a reach or in the middle of such an area, special protective measures must be applied (e.g. using zinc-coated or corrosion more resistant sheets, appropriate encasing etc.) which prevent corrosion damage of the surface finish of the radiators in question.

Radiators with surface finish complying with the DIN 55 900 standard can thus be installed in kitchens, bathrooms and toilets, provided they are located in the suitable place of the room.

3.2 Spaces which are unsufficiently air-ventilated

These are rooms (spaces with C2 interior environment air and higher) with windows which are never opened or rooms without windows where no sufficient air exchange can be achieved and maintained. In such spaces, humidity from air can often condensate on turned-off and therefore cold radiators. This condensated humidity can damage the protective coating due to corrosion or blistering.

Regular air-ventilation of the heated rooms/premises is the necessary protection of the surface finish of radiators against humidity and condensated water. It is not recommended, as a kind of protection against condensated humidity, to turn off radiators which are placed in unsufficiently air-ventilated rooms.

Using radiators complying with the surface finish according to DIN 55 900 inside bathrooms, toilets and launderettes (without windows) is possible only if air-ventilation is maintained in accordance with DIN 18 017 standard, Part 1 and Part 3, wherein hour exchanges of air volumes are defined. Analogically, requirements re. temperature-humidity microclimate are given in ČSN EN ISO 7730 standard.

If no regular air-ventilation is possible, or if no permanent air exchange can be achieved, radiators must be in continuous operation so that cooling down of such surfaces is prevented where air humidity would condensate.

Users of such unaired and humid rooms (e.g bathrooms, launderettes) must respect this fact. C losed rooms with installed radiators must be heated or air-ventilated regularly. Requirements defining air-ventilation of flats or houses are given in the following table:

Room	Air exchange rate
Kitchen	50 l/s – during operation 12 l/s – with permanent air-ventilation or with opened windows
Bathroom, toilet	25 l/s – when being used 10 l/s – with permanent air-ventilation or with opened windows
Garage a) separate b) shared	50 l/s – separate 7,5 l/s car – shared

3.3 Spaces with permanent increased humidity or aggressivity of environment air

This relates to critical rooms and premises (C2 – C5), i.e. swimming pools, saunas, public toilets, car-washing facilities, laundry plants, battery recharging workshops, various premises in chemical and food processing industries, and rooms and spaces where wet cleaning is carried out by means of low or high pressure equipment etc. The radiators complying with DIN 55 900 are not suitable for application in such premises.
If the said radiators are still to be installed into such difficult conditions, it is necessary to consult the manufacturer for the best possible placement of the radiators and to set limitations for usage of these radiators with standard surface finish. Inside the above mentioned critical premises there are usually also places with the corrossion impact of grade C1, such as offices, changing rooms, workshops, dining halls etc. wherein the radiators complying with DIN 55 900 can be applied without limitations.

4. STORING OF RADIATORS AND MOUNTING OF RADIATORS

The DIN 55 900 standard requires that radiators provided with the final surface coating must be appropriately protected for and during transportation and for storage and mounting and that it must be possible to clean the radiators surface with common detergents.
The following advice is to be respected.

4.1 Transportation

During transportation but also during storage and final mounting of radiators, it is necessary to prevent any damage of the radiator coating and/or of all covering elements. No damage caused by rain or by any aggressive impurities may occur.

4.2 Storage

Radiators provided with final surface finish must be stored at the user's in dry and well air-ventilated spaces so that no corrosion damage of the radiators surface finish occurs.

4.3 Protection of the surface finish during mounting

Mounting of the radiators is to be carried out in such a manner that the protective wrapping is removed only after all building construction jobs (e.g. floor tiling, concrete works, wall painting/ decorating and cleaning) has been finished in order to prevent any damage of radiators, especially any damage of their surface finish. The radiators can be mounted and put into operation without removing the protective wrapping.

4.4 Cleaning

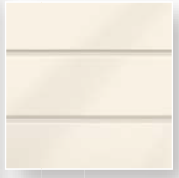
Radiators with final surface finish can be cleaned with such suitable water-borne detergents which are commonly used in households without any adverse impact on the painted surface. Such detergents must neither be abrasive (they would abrade the surface) nor strongly alkaline or acidic (i.e. chemically aggressive).

COLOUR CARD

SILK GLOSS

code 10
White RAL 9016*

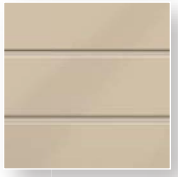
code 14
Jasmine



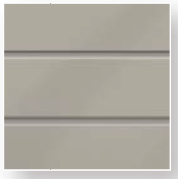
code 35
Silber RAL 9006

HIGH GLOSS

code 16
Bahama

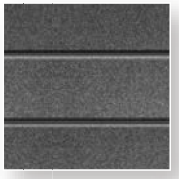


code 22
Manhattan

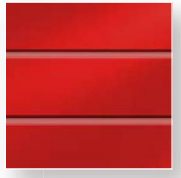


code 26
Pergamon

code 32
Anthrazit Metallic

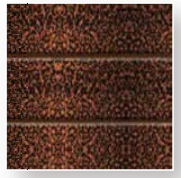


code 37
Red RAL 3001



code 39
Black RAL 9005

code 45
Pearl Brown



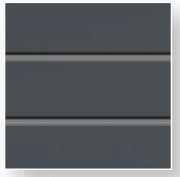
MATTE

code 47
RAL 9007

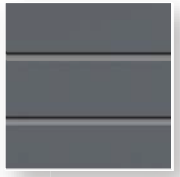
code 48
RAL 9006

code 49
RAL 7024

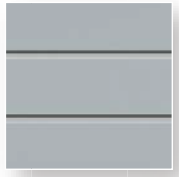
code 51
RAL 7016



code 54
RAL 7015



code 57
RAL 7040



DEEP MATTE

code 40
Alloy Black

code 42
Gold

Notice:
The colour of the radiator may vary in comparison with the colour shown in the KORALUX colour card.
The standard paint finish is white RAL 9016*, other colours from KORADO colour range with an extra charge 20 %.
Radiators can be ordered also in other colours from RAL colour range under the ordering code 99 with an extra charge 30 %.