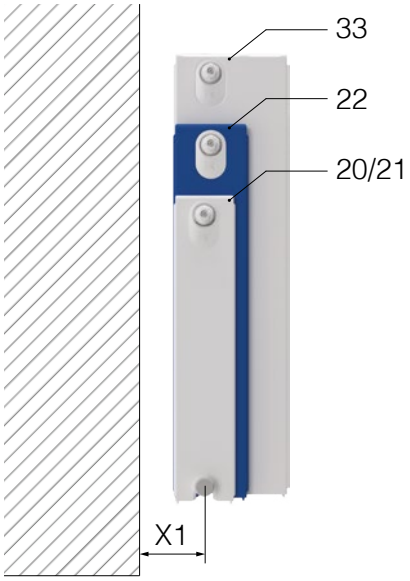
RADIK VKM8
RADIATOR WITH UNIVERSAL CONNECTION



UNIVERSAL CONNECTION

- Solution for manifold connections
- VKM8 offers up to 48 ways of connection

DESIGN

- also in PLAN / LINE design
- Up to 200 RAL colours

VARIABLE

- Versions with valve on the right, on the left, as well as radiators without welded hangers which can be turned

SIZES

- For large as well as small spaces
- In lengths from 40 cm to 300 cm.

ROOM-SAVING

- Saving of stock volume

SMART SOLUTION

- Make the instalation easier and choose a universal radiator

OVERVIEW OF MODELS

Description	Model	10	11	20	21	22	33
Models with welded hangers, profiled front panel, with vertically and horizonntally aligned water channels	RADIK VKM8	X	X	X	X	X	X
	RADIK VKM8 - L	X	X	X	X	X	X
Model without welded hangers, with profiled front panel, with vertically and horizonntally aligned water channels	RADIK VKM8 - U			X	X	X	X
models with welded hangers and a flat front panel	RADIK PLAN VKM8		X	X	X	X	X
	RADIK PLAN VKM8 - L		X	X	X	X	X
models with welded hangers and a flat front panel with fine horizontal grooves	RADIK LINE VKM8		X	X	X	X	X
	RADIK LINE VKM8 - L		X	X	X	X	X

DELIVERED AS STANDARD

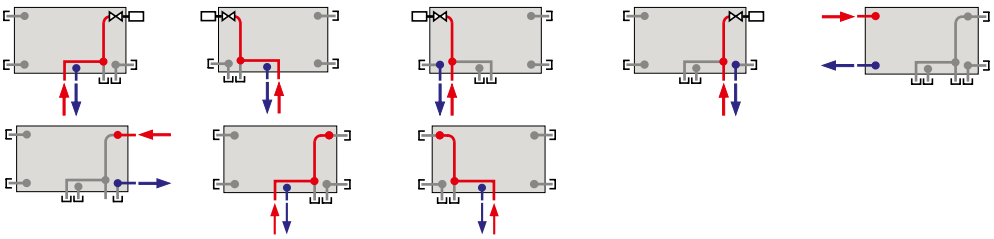
All VKM8 radiators are delivered with an integrated, continuously adjustable 8-level valve, an air vent and a respective numbber of blanking plugs. Except from type 10 all other radiator types are delivered with side panels and a top grill.

RADIK VKM8 - WAYS OF CONNECTION TO THE HEATING SYSTEM

27 connection options
with welded hangers

27 connection options
with welded hangers

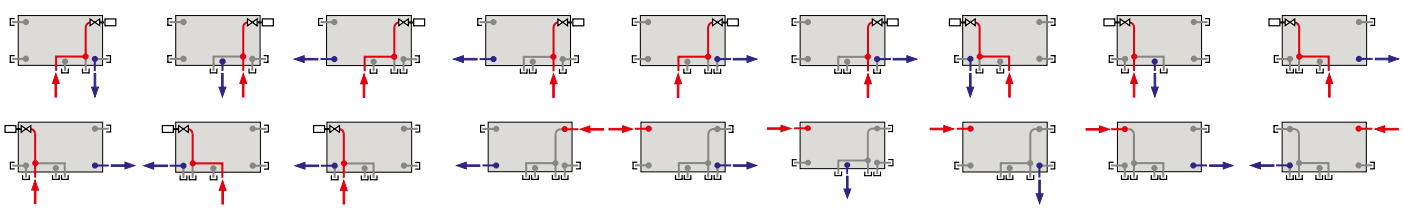
48 connection options
without welded hangers



27 connection options
with welded hangers

27 connection options
with welded hangers

SOME OF OTHER WAYS OF CONNECTION TO THE HEATING SYSTEM



RADIK VKM8 - U

Description

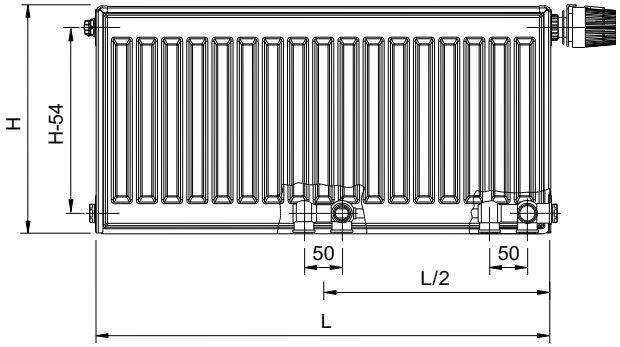
Model **RADIK VKM8-U** is a panel radiator in version VENTIL KOMPAKT which allows **bottom middle, bottom right or bottom left connection** to the heating system. This model has no welded hangers to the back side.

The panel radiators RADIK VKM8-U are designed as modern components of the heating systems with forced circulation of the heating media and with horizontal distribution pipes located below the radiators in the floor, in the wall or along the wall and covered with decorative strips.

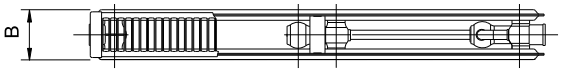
Technical data

Height H	300, 400, 500, 600, 700, 900 mm
Length L	400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1400, 1600, 1800, 2000, 2300, 2600, 3000 mm
Depth B	
Type 20 VKM8 - U	66 mm
Type 21 VKM8 - U	66 mm
Type 22 VKM8 - U	100 mm
Type 33 VKM8 - U	155 mm
Connecting pitch	50 mm
Connecting thread	8 × G 1/2“ inside
Highest allowed working pressure	10 bar (1,0 MPa)
Highest allowed working temperature	110 °C
Radiator connection	middle connection right bottom left bottom

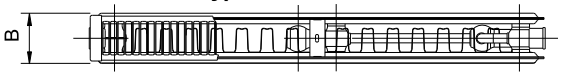
Overview of types



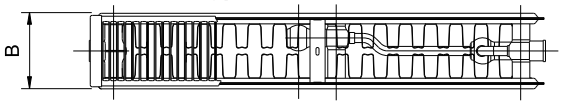
Type 20 VKM8 - U



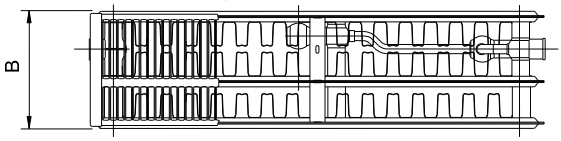
Type 21 VKM8 - U



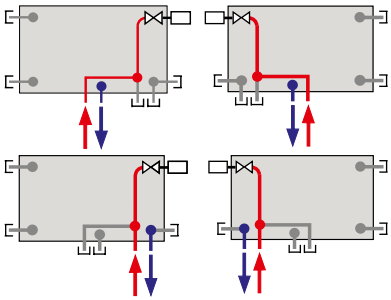
Type 22 VKM8 - U



Type 33 VKM8 - U



Examples of connection to the heating system



middle connection
φ = 1

right/left bottom
φ = 1

Thermal performances

Guidelines for ordering are described on page 86.

MOUNTING OF STEEL PANEL RADIATORS **IN HEIGHT 200 mm**

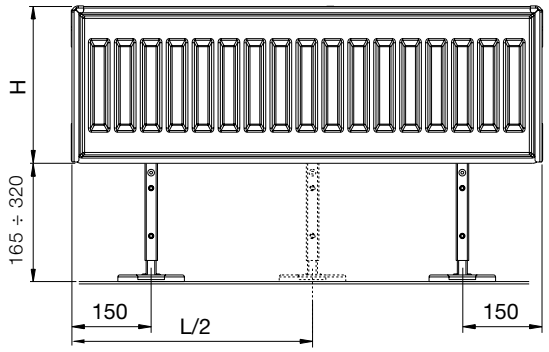
Mounting

Steel panel radiators RADIK in height 200mm can be mounted on the wall as well as on the floor. Radiators are delivered with the necessary number of „Split brackets Plus“ designed for wall mounting as standard.

Mounting on the floor can be carried out with special stand brackets Z-U400 which are not delivered as standard, and must be ordered separately.

Radiators in lengths up to 1800 mm are mounted with two brackets, radiators in length 1800 mm and longer are mounted with three brackets.

Mounting on the floor



Mounting on the wall

Type	22	33
X1	87÷97	87÷97
X2	137÷147	192÷202

The **X2** figure is increased by 2 mm for PLAN (LINE) radiators.

Ordering brackets

Type	Code for ordering
Split bracket Plus – set 2 pcs	Z-U556
Split bracket Plus – set 3 pcs	Z-U557
Stand bracket for types 22, 33	Z-U400

NEW RADIATOR DESIGN

Description

If you want to facelift the design of your radiator you can install an additional front panel. The front panel is available in flat design PLAN, or with fine horizontal grooves LINE. To make a complete facelift you can also replace all other visible parts, such as top grill and side panels. The standard colour of front panel is white but you can coose from 18 KORADO colours or from 200 RAL colours.

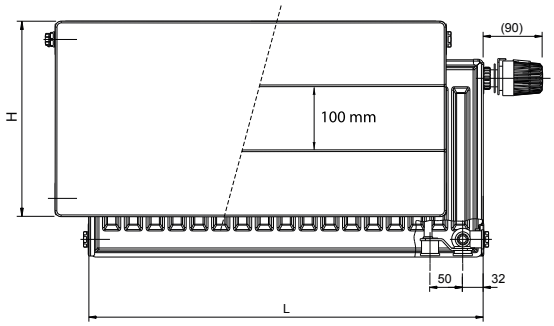
Front panels are suitable for the following RADIK models: VKM8, VKM8-L, VKM8-U, VKL, VKM, VKM-L, VK, VKU, VKL, MM, KLASIK, KLASIK-R, COMBI VK.

Note: By using the additional front panel you can cause a reduction of the heat output of your radiator by up to 7%..

Order code:
PLAN: **Z-DCP-HHHLLL-10K**
LINE: **Z-DCL-HHHLLL-10K**

Front panel length in cm

Front panel height in cm



RADIK VKM8, VKM8 - L, VKM8 - U

HEAT OUTPUT IN WATTS CERTIFIED TO EN 442

20 °C		Type 10 VKM8 Type 10 VKM8 - L						Type 11 VKM8 Type 11 VKM8 - L						Type 20 VKM8 Type 20 VKM8 - L Type 20 VKM8 - U		
Length **L** [mm]	t_1/t_2 [°C]	Height **H** [mm]														
		300	400	500	600	700	900	300	400	500	600	700	900	500	600	700
400	75/65			229	266	301	369	213	273	332	392	452	573	374	432	489
	70/55			185	215	243	297	174	222	269	316	364	462	302	349	394
	55/45			117	136	153	187	112	142	171	200	230	290	191	221	248
	45/40			81	93	105	127	78	99	118	137	157	198	131	151	170
500	75/65	188	238	286	333	377	461	267	342	416	490	565	716	467	540	611
	70/55	152	193	231	269	304	371	217	277	337	395	456	577	377	436	493
	55/45	97	122	147	170	192	233	140	178	214	250	288	363	239	276	310
	45/40	67	84	101	116	131	159	98	123	148	171	197	248	164	189	212
600	75/65	225	286	343	399	452	553	320	410	499	587	677	859	560	648	733
	70/55	182	231	277	322	365	445	261	333	404	474	547	692	453	523	591
	55/45	116	147	176	204	230	280	168	213	257	300	345	436	287	331	372
	45/40	80	101	121	140	157	191	117	148	177	206	236	297	197	227	254
700	75/65			400	466	527	645	373	478	582	685	790	1002	654	756	855
	70/55			324	376	425	520	304	388	471	553	638	808	528	610	690
	55/45			205	238	268	327	196	249	300	350	403	508	335	386	435
	45/40			141	163	184	223	137	172	207	240	275	347	230	264	297
800	75/65			458	532	602	738	426	546	665	783	903	1146	747	864	978
	70/55			370	430	486	594	348	444	539	632	729	923	604	698	788
	55/45			235	272	307	373	224	285	343	400	460	581	383	441	497
	45/40			161	186	210	254	156	197	236	274	315	396	263	302	339
900	75/65			515	599	678	830	480	615	748	881	1016	1289	841	972	1100
	70/55			416	483	547	668	391	499	606	712	820	1038	679	785	887
	55/45			264	306	345	420	252	320	386	450	518	654	431	496	559
	45/40			181	209	236	286	176	222	266	308	354	446	295	340	382
1000	75/65			572	665	753	922	533	683	831	979	1129	1432	934	1080	1222
	70/55			462	537	608	742	434	555	673	791	911	1154	755	872	985
	55/45			293	340	383	467	280	356	429	500	575	726	478	551	621
	45/40			201	233	262	318	195	246	295	343	394	495	328	378	424
1100	75/65			629	732	828		586	751	914	1077	1242	1575	1027	1188	1344
	70/55			509	591	668		478	610	740	870	1002	1269	830	959	1084
	55/45			323	374	422		308	391	471	550	633	799	526	607	683
	45/40			221	256	288		215	271	325	377	433	545	361	415	466
1200	75/65			686	798	904		640	820	997	1175	1355	1718	1121	1296	1466
	70/55			555	644	729		521	666	808	949	1093	1385	906	1046	1182
	55/45			352	408	460		336	427	514	600	690	871	574	662	745
	45/40			242	279	315		234	296	354	411	472	595	394	453	509
1400	75/65			801	931	1054		746	956	1163	1371	1581	2005	1308	1512	1711
	70/55			647	752	851		608	777	942	1107	1275	1615	1057	1221	1379
	55/45			411	476	537		392	498	600	700	805	1017	670	772	869
	45/40			282	326	367		273	345	413	480	551	694	460	529	593
1600	75/65			915	1064	1205		853	1093	1330	1566	1806	2291	1494	1728	1955
	70/55			740	859	972		695	888	1077	1265	1458	1846	1208	1395	1576
	55/45			469	544	614		448	569	686	800	920	1162	766	882	993
	45/40			322	372	420		312	394	472	548	630	793	525	604	678
1800	75/65			1030	1197	1355		959	1229	1496	1762	2032		1681	1944	2200
	70/55			832	967	1094		782	999	1212	1423	1640		1359	1570	1773
	55/45			528	611	690		504	640	771	900	1036		861	993	1117
	45/40			362	419	472		351	443	531	617	708		591	680	763
2000	75/65			1144	1330	1506		1066	1366	1662	1958	2258		1868	2160	2444
	70/55			925	1074	1215		869	1110	1346	1581	1822		1510	1744	1970
	55/45			586	679	767		561	711	857	1000	1151		957	1103	1242
	45/40			403	465	524		390	493	590	685	787		657	755	848
2300	75/65									1911	2252	2597		2148	2484	2811
	70/55									1548	1818	2095		1736	2006	2266
	55/45									986	1150	1323		1101	1268	1428
	45/40									679	788	905		755	869	975
2600	75/65															
	70/55															
	55/45															
	45/40															
3000	75/65															
	70/55															
	55/45															
	45/40															

Model VKM8-L cannot be supplied in length L = 400 mm.

Heat output: RADIK VKM8, RADIK VKM8-L, RADIK VKM8-U

RADIK VKM8, VKM8 - L, VKM8 - U

HEAT OUTPUT IN WATTS CERTIFIED TO EN 442

20 °C		Type 21 VKM8 Type 21 VKM8 - L Type 21 VKM8 - U						Type 22 VKM8 Type 22 VKM8 - L Type 22 VKM8 - U						Type 33 VKM8 Type 33 VKM8 - L Type 33 VKM8 - U					
Length **L** [mm]	t_1/t_2 [°C]	Height **H** [mm]																	
		300	400	500	600	700	900	300	400	500	600	700	900	300	400	500	600	700	900
400	75/65	299	375	447	518	586	721	380	482	579	672	762	934			830	964	1090	1314
	70/55	242	302	360	416	470	576	308	389	467	541	612	749			668	775	875	1052
	55/45	153	190	226	260	293	356	196	246	294	339	383	466			420	485	546	653
	45/40	105	130	154	176	198	240	135	169	201	231	260	315			286	330	370	440
500	75/65	374	469	559	647	733	901	475	602	724	840	953	1168			1038	1206	1362	1643
	70/55	302	378	450	519	588	720	385	486	583	676	765	936			835	969	1093	1315
	55/45	191	238	282	325	366	445	245	308	368	424	479	583			524	607	682	816
	45/40	131	163	192	220	247	300	168	211	251	288	325	394			357	412	462	550
600	75/65	449	562	671	776	880	1081	570	722	868	1008	1143	1401			1245	1447	1634	1972
	70/55	363	453	540	623	705	864	462	584	700	811	918	1123			1002	1163	1312	1578
	55/45	229	286	339	389	439	535	294	370	441	508	574	699			629	728	819	979
	45/40	157	195	230	264	297	359	202	253	301	346	390	473			429	495	555	660
700	75/65	524	656	783	906	1026	1261	665	843	1013	1176	1334	1635			1453	1688	1907	2300
	70/55	423	529	630	727	823	1008	538	681	817	946	1071	1310			1169	1357	1530	1841
	55/45	268	333	395	454	512	624	343	431	515	593	670	816			734	849	955	1142
	45/40	183	228	269	308	346	419	236	296	351	403	455	551			500	577	647	770
800	75/65	598	750	894	1035	1173	1442	760	963	1158	1344	1524	1868	1065	1373	1660	1929	2179	2629
	70/55	483	604	720	831	940	1152	615	778	933	1081	1224	1497	859	1106	1336	1550	1749	2104
	55/45	306	381	451	519	585	713	392	493	588	678	766	932	543	697	839	971	1092	1305
	45/40	210	260	307	352	396	479	269	338	402	461	520	630	371	476	571	659	740	880
900	75/65	673	843	1006	1165	1319	1622	855	1084	1302	1512	1715	2102	1198	1544	1868	2170	2452	2957
	70/55	544	680	810	935	1058	1296	692	875	1050	1216	1377	1685	967	1245	1503	1744	1968	2367
	55/45	344	428	508	584	659	802	440	554	662	763	862	1049	611	784	944	1092	1228	1468
	45/40	236	293	346	396	445	539	303	380	452	519	585	709	418	535	643	742	832	990
1000	75/65	748	937	1118	1294	1466	1802	950	1204	1447	1680	1905	2335	1331	1716	2075	2411	2724	3286
	70/55	604	755	899	1039	1175	1440	769	973	1166	1351	1531	1872	1074	1383	1670	1938	2186	2630
	55/45	382	476	564	649	732	891	489	616	735	847	957	1165	679	871	1049	1213	1365	1631
	45/40	262	325	384	440	495	599	337	422	502	576	650	788	464	595	714	824	925	1100
1100	75/65	823	1031	1230	1423	1613	1982	1045	1324	1592	1848	2096	2569	1464	1888	2283	2652	2996	3615
	70/55	665	831	989	1143	1293	1584	846	1070	1283	1486	1684	2059	1182	1521	1837	2132	2405	2893
	55/45	421	524	621	714	805	980	538	677	809	932	1053	1282	746	958	1154	1335	1501	1795
	45/40	288	358	422	484	544	659	371	464	552	634	715	866	511	654	786	907	1017	1210
1200	75/65	898	1124	1342	1553	1759	2162	1140	1445	1736	2016	2286	2802	1597	2059	2490	2893	3269	3943
	70/55	725	906	1079	1247	1410	1728	923	1167	1400	1622	1837	2246	1289	1660	2004	2326	2624	3156
	55/45	459	571	677	779	878	1069	587	739	882	1017	1149	1398	814	1045	1259	1456	1638	1958
	45/40	314	390	461	528	594	719	404	507	602	692	780	945	557	714	857	989	1110	1320
1400	75/65	1047	1312	1565	1812	2052	2523	1330	1686	2026	2352	2667	3269	1863	2402	2905	3375	3814	4600
	70/55	846	1058	1259	1455	1645	2016	1077	1362	1633	1892	2143	2620	1504	1936	2338	2713	3061	3682
	55/45	535	666	790	909	1024	1247	685	862	1029	1186	1340	1631	950	1220	1468	1699	1911	2284
	45/40	367	455	538	616	693	839	472	591	703	807	910	1103	650	832	1000	1154	1295	1540
1600	75/65	1197	1499	1789	2070	2346	2883	1520	1926	2315	2688	3048	3736	2130	2746	3320	3858	4358	5258
	70/55	967	1209	1439	1662	1880	2304	1231	1556	1866	2162	2449	2995	1719	2213	2672	3101	3498	4208
	55/45	612	762	903	1038	1171	1425	783	985	1176	1356	1532	1864	1086	1394	1678	1942	2184	2610
	45/40	419	520	614	704	792	959	539	676	803	922	1040	1260	743	951	1143	1319	1480	1760
1800	75/65	1346	1687	2012	2329	2639		1710	2167	2605	3024	3429		2396	3089	3735	4340	4903	
	70/55	1088	1360	1619	1870	2115		1385	1751	2100	2432	2755		1934	2489	3006	3488	3935	
	55/45	688	857	1016	1168	1317		881	1109	1323	1525	1723		1221	1568	1888	2184	2457	
	45/40	472	585	691	792	891		606	760	903	1038	1170		836	1070	1286	1484	1665	
2000	75/65	1496	1874	2236	2588	2932		1900	2408	2894	3360	3810		2662	3432	4150	4822	5448	
	70/55	1208	1511	1799	2078	2350		1539	1946	2333	2703	3061		2148	2766	3340	3876	4373	
	55/45	765	952	1129	1298	1464		979	1232	1470	1695	1915		1357	1742	2098	2427	2730	
	45/40	524	650	768	880	990		674	845	1004	1153	1300		929	1189	1428	1649	1850	
2300	75/65			2571	2976	3372		2185	2769	3328	3864	4382		3061	3947				
	70/55			2069	2390	2703		1769	2237	2683	3108	3520		2471	3181				
	55/45			1298	1493	1683		1126	1417	1691	1949	2202		1561	2003				
	45/40			883	1012	1138		775	971	1154	1326	1495		1068	1368				
2600	75/65							2470	3130	3762	4368	4953		3461	4462				
	70/55							2000	2529	3033	3513	3979		2793	3596				
	55/45							1272	1601	1911	2203	2489		1764	2265				
	45/40							876	1098	1305	1499	1690		1207	1546				
3000	75/65							2850	3612	4341	5040	5715		3993	5148				
	70/55							2308	2918	3499	4054	4592		3223	4149				
	55/45							1468	1848	2205	2542	2872		2036	2613				
	45/40							1011	1267	1506	1729	1950		1393	1784				

Model VKM8-L cannot be supplied in length L = 400 mm.

Heat output: RADIK VKM8, RADIK VKM8-L, RADIK VKM8-U

BASIC TECHNICAL PARAMETERS

RADIK VKM8, VKM8 - L, VKM8 - U

	Type 10						Type 11						Type 20		
Height **H** [mm]	300	400	500	600	700	900	300	400	500	600	700	900	500	600	700
Nominal heat output [W/m]	375	476	572	665	753	922	533	683	831	979	1129	1432	934	1080	1222
Temp. exponent n [-]	1,2945	1,3013	1,3081	1,3149	1,3210	1,3331	1,2583	1,2772	1,2962	1,3151	1,3198	1,3291	1,3093	1,3160	1,3259
K_M	2,3698	2,9291	3,4275	3,8801	4,2900	5,0100	3,8807	4,6184	5,2167	5,7078	6,4624	7,9039	5,5704	6,2745	6,8298
Radiator weight [kg/m]	6,6	8,4	10,4	12,4	15,2	17,7	10,9	13,3	16,6	19,7	23,6	29,3	21,2	25,3	29,5
Water volume [l/m]	1,9	2,3	2,7	3,1	3,5	4,5	1,9	2,3	2,7	3,1	3,5	4,5	5,3	6,2	7,0

	Type 21						Type 22						Type 33					
Height **H** [mm]	300	400	500	600	700	900	300	400	500	600	700	900	300	400	500	600	700	900
Nominal heat output [W/m]	748	937	1118	1294	1466	1802	950	1204	1447	1680	1905	2335	1331	1716	2075	2411	2724	3286
Temp. exponent n [-]	1,3135	1,3259	1,3384	1,3508	1,3602	1,3791	1,2985	1,3122	1,3260	1,3397	1,3468	1,3609	1,3190	1,3273	1,3357	1,3440	1,3529	1,3708
K_M	4,3884	5,2369	5,9503	6,5609	7,1646	8,1791	5,9103	7,0997	8,0841	8,8961	9,8112	11,3804	7,6425	9,5384	11,1610	12,5540	13,6984	15,4070
Radiator weight [kg/m]	15,1	19,6	23,0	27,3	31,5	41,2	17,8	23,5	26,6	32,0	37,1	48,1	26,3	34,8	39,8	47,7	55,3	71,9
Water volume [l/m]	3,7	4,5	5,3	6,2	7,0	8,7	3,7	4,5	5,3	6,2	7,1	8,9	5,4	6,7	8,0	9,3	10,5	13,0

RADIK KLASIK, RADIK KLASIK - Z, RADIK VK, RADIK VK - Z, RADIK VKU, RADIK VKL

	Type 10 Type 10 VK Type 10 VKL						Type 11 Type 11 VK Type 11 VKL						Type 20 Type 20 VK		
Height **H** [mm]	300	400	500	600	700	900	300	400	500	600	700	900	500	600	700
Nominal heat output [W/m]	330	423	514	604	694	875	549	708	858	1002	1139	1394	838	978	1117
Temp. exponent n [-]	1,3319	1,3193	1,3068	1,2942	1,2989	1,3083	1,3156	1,3140	1,3123	1,3107	1,3140	1,3206	1,3005	1,3014	1,3192
K_M	1,8016	2,4260	3,0956	3,8215	4,3109	5,2390	3,1945	4,1456	5,0574	5,9433	6,6693	7,9543	5,1729	6,0159	6,4087
Radiator weight [kg/m]	5,8	7,6	9,5	11,5	14,3	16,7	10,1	12,5	15,7	18,8	22,7	28,3	20,4	24,4	29,3
Water volume [l/m]	1,9	2,3	2,7	3,1	3,5	4,3	1,9	2,3	2,7	3,1	3,5	4,3	5,1	5,8	6,6
Flow coefficient A_T [m²]	6,5 x 10^{-5} (DN 15)						6,5 x 10^{-5} (DN 15)						1,0 x 10^{-4} (DN 15)		
Resistance coefficient ξ_T [-]	19,0 (DN 15)						19,0 (DN 15)						8,5 (DN 15)		

Stated values for the flow coefficient A_T and the coefficient of resistance ξ_T apply only to the model RADIK KLASIK.

RADIK KLASIK, RADIK KLASIK - Z, RADIK VK, RADIK VK - Z, RADIK VKU, RADIK VKL

	Type 21 Type 21 VK Type 21 VKL Type 21 VKU						Type 22 Type 22 VK Type 22 VKL Type 22 VKU							Type 33 Type 33 VK Type 33 VKL Type 33 VKU						
Height **H** [mm]	300	400	500	600	700	900	200	300	400	500	600	700	900	200	300	400	500	600	700	900
Nominal heat output [W/m]	745	937	1117	1288	1450	1754	649	966	1216	1452	1679	1897	2313	934	1379	1738	2079	2406	2723	3328
Temp. exponent n [-]	1,3197	1,3238	1,3278	1,3319	1,3405	1,3578	1,2560	1,3297	1,3316	1,3334	1,3353	1,3427	1,3574	1,2668	1,2977	1,3129	1,3282	1,3434	1,3498	1,3626
K_M	4,2660	5,2801	6,1967	7,0317	7,6542	8,6530	4,7680	5,3193	6,6464	7,8806	9,0452	9,9280	11,4286	6,5780	8,6062	10,2205	11,5155	12,5574	13,8605	16,1126
Radiator weight [kg/m]	14,3	18,8	22,1	26,4	30,6	40,2	10,2	17,0	22,7	25,7	31,1	36,2	47,1	15,1	25,5	34,0	38,9	46,8	54,4	70,9
Water volume [l/m]	3,7	4,4	5,1	5,8	6,6	8,3	3,1	3,7	4,4	5,1	5,8	6,6	8,4	4,6	5,3	6,4	7,6	8,7	10,0	12,6
Flow coefficient A_T [m²]	1,0 x 10^{-4} (DN 15)						1,0 x 10^{-4} (DN 15)							1,18 x 10^{-4} (DN 15)						
Resistance coefficient ξ_T [-]	8,5 (DN 15)						8,5 (DN 15)							5,8 (DN 15)						

Stated values for the flow coefficient A_T and the coefficient of resistance ξ_T apply only to the model RADIK KLASIK.

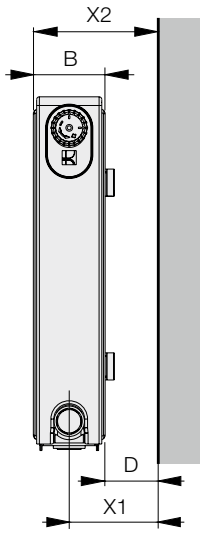
Characteristic equation: $\phi = K_M \cdot \Delta T^n \left[\frac{W}{m}\right]$, $\Delta T = \frac{t_1 + t_2}{2} - t_i [K]$

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

DATA FOR MOUNTING - Type VKM8

Location of hangers

Position of radiator



A - for types: 10 VKM8
B - for types: 10 VKM8 - L
C - for types: 11 VKM8, 11 VKM8 - L, 11 PLAN VKM8, 11 PLAN VKM8 - L, 11 LINE VKM8, 11 LINE VKM8 - L
D - for types: 20 VKM8, 20 VKM8 - L, 20 PLAN VKM8, 20 PLAN VKM8 - L, 20 LINE VKM8, 20 LINE VKM8 - L, 21 VKM8, 21 VKM8 - L, 21 PLAN VKM8, 21 PLAN VKM8 - L, 21 LINE VKM8, 21 LINE VKM8 - L, 22 VKM8, 22 VKM8 - L, 22 PLAN VKM8, 22 PLAN VKM8 - L, 22 LINE VKM8, 22 LINE VKM8 - L, 33 VKM8, 33 VKM8 - L, 33 PLAN VKM8, 33 PLAN VKM8 - L, 33 LINE VKM8, 33 LINE VKM8 - L

Tables of sizes

Type		L [mm]						
		400	500 - 1600	1800	2000	2300	2600	3000
X3 [mm]	A	167	167	167	167	167	167	167
	B	100	133	133	133	133	133	133
	C	117	150	150	150	150	150	150
	D	133	133	133	133	133	133	133
X4 [mm]	A	-	-	900	1000	1133	1300	1500
	B	-	-	900	1000	1133	1300	1500
	C	-	-	900	1000	1133	1300	1500
	D	-	-	900	1000	1133	1300	1500
X5 [mm]	A	100	133	133	133	133	133	133
	B	167	167	167	167	167	167	167
	C	117	150	150	150	150	150	150
	D	133	133	133	133	133	133	133

Height H [mm]	300	400	500	600	700	900
X6	145	245	345	445	545	745

	Type	10 VKM8	11 VKM8 11 PLAN VKM8 11 LINE VKM8	20 VKM8 20 PLAN VKM8 20 LINE VKM8 20 VKM8 - U	21 VKM8 21 PLAN VKM8 21 LINE VKM8 21 VKM8 - U	22 VKM8 22 PLAN VKM8 22 LINE VKM8 22 VKM8 - U	33 VKM8 33 PLAN VKM8 33 LINE VKM8 33 VKM8 - U
Bottom middle	X1 [mm]	D - 18	D + 25	D + 33	D + 33	D + 33	D + 33
Right bottom connection		D - 18	D + 25	D + 33	D + 33	D + 50	D + 50
	X2 [mm]	D + 14	D + 57	D + 66	D + 66	D + 100	D + 155

	Type	10 VKM8 - L	11 VKM8 - L 11 PLAN VKM8 - L 11 LINE VKM8 - L	20 VKM8 - L 20 PLAN VKM8 - L 20 LINE VKM8 - L 20 VKM8 - U*	21 VKM8 - L 21 PLAN VKM8 - L 21 LINE VKM8 - L 21 VKM8 - U*	22 VKM8 - L 22 PLAN VKM8 - L 22 LINE VKM8 - L	22 VKM8 - U*	33 VKM8 - L 33 PLAN VKM8 - L 33 LINE VKM8 - L	33 VKM8 - U*
Bottom middle	X1 [mm]	D - 18	D + 25	D + 33	D + 33	D + 33	D + 67	D + 33	D + 122
Left bottom connection		D - 18	D + 25	D + 33	D + 33	D + 50	D + 50	D + 50	D + 105
	X2 [mm]	D + 14	D + 57	D + 66	D + 66	D + 100	D + 100	D + 155	D + 155

Notice: * VKM8-U connected with the valve on the left side.
Values **X2** related to the radiators in versions PLAN and LINE are by 2 mm larger.

GENERAL INFORMATION

Description

RADIK are steel panel radiators with a natural air convection around their heat-transfer surface. They are produced in single, double or triple panel version. The basic heat-transfer surface is created by a profiled panel with horizontally and vertically aligned channels. For an increase of heat output there is an additional convector fin welded on the inside of the panel of some of the radiator types.

The panel is made from two moulded steel shells which are spot-welded in vertical profiles and seam-welded on all four sides of the panel. A cold-rolled low-carbon content steel is used.

Use

RADIK steel panel radiators are designed for central heating systems in buildings with the highest allowed working pressure of 10 bar (1,0 MPa) where water or water solutions are used as the heating medium. The highest allowed working temperature is 110 °C. RADIK radiators are designed for single-pipe or twin-pipe systems with pressurized or gravity-fed circulation. Radiators must be installed in a professional way in hot water systems which are carried out professionally according to VDI 2035 with regard to the protection against damage caused by corrosion and scale.

The following main water quality attributes must be adhered to:

- pH range 8.5 - 9.5 (this applies for systems which do not contain aluminium)
- overall water hardness (content of Ca + Mg ions) up to 1mmol/l
- salinity within the range 300 - 500 µS/cm
- oxygen content max. 0.1 mg/l.

Low water content in the radiator enables a flexible reaction of the heating system to the required room temperature and an effective thermoregulation.

RADIK steel panel radiators in the PLAN and VERTIKAL version have a special design which will fit in with every room interior and will satisfy even the most demanding customer and home designer.

RADIK steel panel radiators in the version HYGIENE are designed for rooms with high demands on hygiene and cleanness. These radiators have been tested in an accredited laboratory and obtained the hygiene certificate for usage in health service and similar services.

Identification

Our products are identified by:

- a printed label on the radiator packaging
- a label with bar code on the radiator packaging
- a company logo stamped on the end panels
- an inkjet print with the manufacturing date and time on the rear side of the plate of the radiator

Type number	Number of panels	Number of convector plates
Type 10	1	0
Type 11	1	1
Type 20	2	0
Type 21	2	1
Type 22	2	2
Type 30	3	0
Type 32	3	2
Type 33	3	3

Versions

RADIK steel panel radiators are manufactured in 6 basic versions which come in individual models.

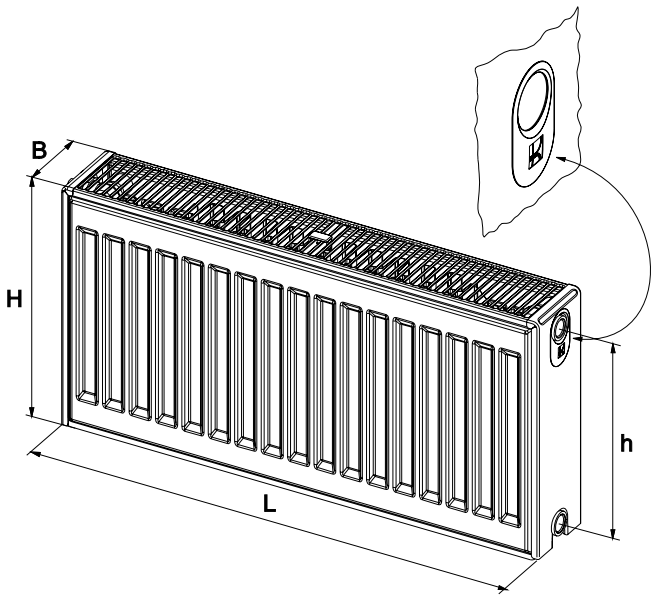
Basic versions of RADIK steel panel radiators:

- KLASIK
  – radiators with side connections and a profiled front panel.
- VENTIL KOMPAKT
  – radiators with built-in inside distribution tappings and valve, with bottom connections and profiled front panel.
- PLAN
  – radiators with side connections (KLASIK version) or bottom connections (VENTIL KOMPAKT version) with a flat front panel.
- LINE
  – radiators with side connections (KLASIK version) or with bottom connection (VENTIL KOMPAKT version) and a flat front panel with fine horizontal grooves
- VERTIKAL
  – vertically aligned radiators without valve with bottom middle connection and a flat or grooved front panel
- HYGIENE
  – radiators without convector fins, side panels and top grill, with side or bottom connections and with a flat front panel

Overview of RADIK models

- VENTIL KOMPAKT
  - model RADIK VKM8
  - model RADIK VKM8 - L
  - model RADIK VKM8 - U
  - model RADIK VK
  - model RADIK VKU
  - model RADIK VKL
  - model RADIK COMBI VK
  - model RADIK MATERNELLE VK
  - model RADIK MATERNELLE VKL
  - model RADIK VK - Z
- KLASIK
  - model RADIK KLASIK
  - model RADIK KLASIK - R
  - model RADIK KLASIK - Z
- PLAN
  - model RADIK PLAN VKM8
  - model RADIK PLAN VKM8 - L
  - model RADIK PLAN VK
  - model RADIK PLAN VKL
  - model RADIK PLAN KLASIK
  - model RADIK PLAN KLASIK - R
- LINE
  - model RADIK LINE VKM8
  - model RADIK LINE VKM8 - L
  - model RADIK LINE VK
  - model RADIK LINE VKL
  - model RADIK LINE KLASIK
  - model RADIK LINE KLASIK - R
- VERTIKAL
  - model RADIK PLAN VERTIKAL - M
  - model RADIK LINE VERTIKAL - M
- Provedení HYGIENE
  - model RADIK CLEAN VKM8
  - model RADIK CLEAN VK
  - model RADIK CLEAN
  - model RADIK HYGIENE
  - model RADIK HYGIENE VK

Technical data



Height	**H** = 200 ÷ 900 mm
Length	**L** = 400 ÷ 3000 mm
Depth	**B** = 47 ÷ 155 mm (differs according to the type)
Connecting pitch	**h** = **H** – 54 mm
Connecting thread	G 1/2" inside
Highest allowed working pressure	10 bar (1,0 MPa)
Test pressure	13 bar
Highest allowed working temperature	110 °C
Axial distance of the vertical stampings	33,33 mm
Basic paint	cataphoretic paint (KTL)
Surface finish	white RAL 9016
LGA	for types 11, 20, 21, 22, 33
Guarantee period	10 years

Finish

The technology used guarantees the achievement of three basic goals:

- long-term corrosion resistance and mechanical durability
- fine-quality finish
- hygienic surface

The surface finish is done in three basic phases:

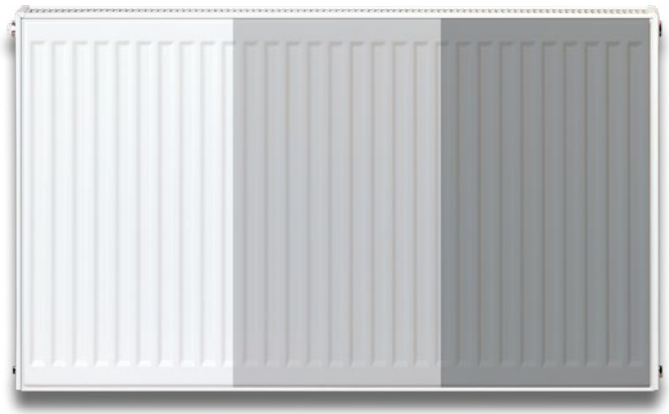
1) Preparation of the steel surface – includes degreasing, phosphating, and rinsing in three stages.

2) Putting on the first layer of paint using the cataphoretic method (KTL). The layer of paint is evenly spread over the whole radiator. The KTL paint gains its final anticorrosion, adhesive, and mechanical and chemical characteristics in a drying oven. This phase of surface finishing is of decisive importance for the long life span of the radiator.

3) Putting on the final layer of paint – epoxy-polyester powder is applied using automatic dusting pistols in an electrostatic field of a dusting compartment. After it is oven dried and cooled, the finish of the radiator is completed.

The surface finishing of the radiators is done with a maximum effort to protect the environment, during production and use.

Radiators are delivered in white powder coat (RAL 9016) as standard, on request we also offer in other colours. For more information on the colours available please see the colour card RADIK.



1. Degreasing and phosphating

2. Cataphoretic paint

3. Epoxy-polyester powder

GENERAL INFORMATION

Basic Equipment

All RADIK steel panel radiators except the model RADIK VKU and all radiators in height 200 mm have two upper and lower hangers welded on the back. Radiators with length 1800 mm and longer have six welded hangers.

All radiators are equipped with an air vent and a respective number of blanking plugs. All connections of RADIK steel panel radiators have the same diameter with a G 1/2 internal thread.

Except the types 10 and the models RADIK HYGIENE, RADIK HYGIENE VK, RADIK CLEAN, RADIK CLEAN VK all other models are delivered with end panels and top grills fitted.

The radiators in height 200 mm are delivered with the necessary number of “Split Brackets Plus“ designed for mounting on the wall. Stand brackets Z-U400 can be delivered on special order.

Transport and storage

The radiators are stored on pallets according to the manufacturer’s internal guidelines. Pallets with radiators should only be transported in covered transport. Radiators which are transported unprofessionally and incorrectly can be deformed or otherwise damaged. It is especially dangerous to transport long radiators on smaller pallets or on top of radiators of a different size.

Radiators must be stored where they are protected from the effects of the weather. They are not to be stored in open, uncovered areas. If they are stored on a flat floor, a maximum of two pallets of the same size may be put on top of each other. Pallets with radiators of type 10 and 11 and all types of the PLAN version may be stored only in one layer.

Heat output and registration

Heat outputs of the steel panel radiators RADIK were measured according to EN 442 in an accredited laboratory.

Conformity with valid European regulations and standards was certified by Strojírenský zkušební ústav (Engineering Testing Institute) in Brno, notified body No. 1015.

Certified registration for using national quality marks RAL (Germany) - see p. 85.

Related norms

ČSN EN 442
DIN EN 442
ČSN 06 1101
ČSN 06 1122
ČSN 06 0310
ČSN 07 7401
DIN 55 900

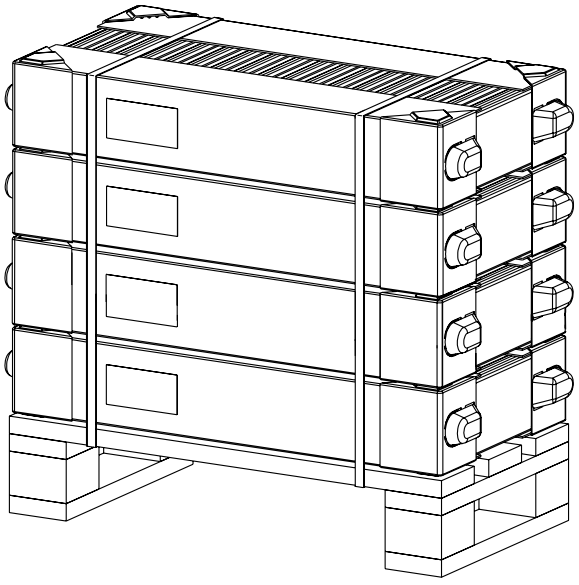
Packaging

All steel panel radiators are delivered in uniform packaging, which consists of:

- corrugated cardboard
- plastic reinforcing corner covers
- polyethylene shrinking foil
- strip band
- inserted information sheet

The packaging protects the radiator during transportation, handling, assembly and after assembly. It should not be removed before the installation and other work is completed.

Packaging - pallet



Guidelines for mounting

Basic guidelines for the installation of steel panel radiators:

- centre below a window
- centre of radiator and of window at the same place
- air movement around the radiator should not be restricted

We offer an assortment of brackets for RADIK steel panel radiators. That assortment is shown in the KORAMONT catalogue and covers most installers needs and all main construction materials. Its construction allows mounting of the radiator with minimum damage of its packaging (at the place of mounting and connection of necessary parts) and the packaging can be removed after the completion of all construction and other work.

We recommend using such fittings for the connection of steel panel radiators as will secure:

- regulation of water flow through the radiator
- closing off radiator at the inlet and outlet of water flow
- emptying and filling of the radiator
- disconnecting of radiator without interruption of the heating system operation

For mounting of RADIK steel panel radiators of VENTIL KOMPAKT version, we recommend to use KORADO pre-fixing template, which will supply, in every respect, radiators presence at a construction site (see KORAMONT catalogue).

Guarantees and Quality

The manufacturer guarantees that the product is leak proof and guarantees stated heat output of RADIK steel panel radiators connected to the hot-water systems for 10 years from the date of sale. The manufacturer accepts no responsibility for deformation or damage of the radiators caused during their transport, handling, or storage. The guarantee does not apply to mechanical or other damages caused by unqualified installation of the radiators.

RADIK products guarantee the quality, as is documented by certificates issued by LGA Nürnberg (certificate on suitability of radiators for installation in schools and kindergartens) and Engineering Testing Laboratory, SZ no. 202 Brno and registration of national quality marks RAL (Germany), NF (France) - see p. 82.

The company KORADO, a.s. has held a quality certificate under the norm ISO 9001 since 1997. That quality control system describes in advance all conditions, requirements, and parameters with respect to technical, manufacturing, commercial, transport, and service issues. The customer is the main goal of the entire system and his satisfaction influences the goals and plans of the company KORADO. The ISO 9001 quality control system guarantees the customer excellent, long-lasting quality of products and services.

Multifunctional package

GENERAL INFORMATION - VENTIL KOMPAKT

Description

Models in VENTIL KOMPAKT version are equipped with a built-in distribution pipeline and valve. This construction allows **connection of the radiator from the bottom** to the heating system. The axial distance of the bottom outlet is always 50 mm and has a G 1/2" internal thread. Its construction is intended for modern heating systems with pressurized circulation of the heating medium and horizontal piping below the radiator in the floor, in the wall, or on the wall covered with a strip.

Installation to the heating system

Modern heating systems require the use of fittings, which will enable the installer to close off the radiator so that it can be changed without interrupting the operating system. The choice of fittings depend on the requirements and the material of the pipes:

1. copper, thin-wall steel, plastic or a plastic-metal-plastic combination
- use a compact connecting fitting with a pitch of 50 mm and with reduction of G 1/2" to G 3/4" by setting appropriate clamping screws according to the material and size of connecting pipes

2. black steel pipes with tubular threading
- use 2 closing screws

1.

Models

VENTIL KOMPAKT version of steel panel radiators is manufactured in several models. The construction of the models varies particularly with respect to the location of the connections and position of the connection pipes.

Model	Position of connection	Description
RADIK VKM8	middle connection and right	14
RADIK VKM8 - L	middle connection and left	15
RADIK VKM8 - U	middle connection and right / left	**16**
RADIK VK	only right	17
RADIK VK - Z	only right	18
RADIK VKU	right or left	19
RADIK VKL	only left	20
RADIK MATERNELLE VK	only right	21
RADIK MATERNELLE VKL	only left	22
RADIK PLAN VKM8	middle connection and right	28
RADIK PLAN VKM8 - L	middle connection and left	29
RADIK PLAN VK	only right	30
RADIK PLAN VKL	only left	31
RADIK LINE VKM8	middle connection and right	28
RADIK LINE VKM8 - L	middle connection and left	29
RADIK LINE VK	only right	30
RADIK LINE VKL	only left	31
RADIK CLEAN VKM8	middle connection and right	37
RADIK CLEAN VK	only right	38
RADIK HYGIENE VK	only right	41
RADIK COMBI VK	only right	42

Valve

At the time of assembly of the radiator a valve Heimeier n. 4360 is fitted into the built-in distribution pipeline. It is characterized by the following data:

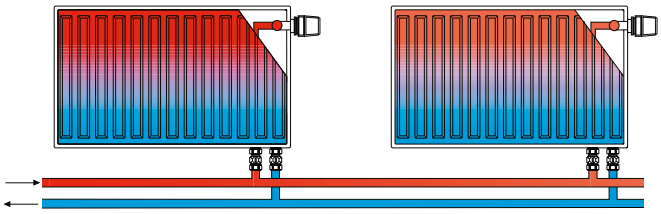
- value of coefficient kv - see page 81
- allows presetting of water flow at 8 levels -factory preset for position eight
- to preset to another position a special key is required
- if any other preset position is needed, the installer should do it after flushing the installation but before the system is turned on
- the valve is tightened at the factory to their norm
- outside connecting thread M 30 x 1.5
- the connecting thread of the valve has a white plastic cover, which gives it protection during transportation and assembly of the radiator and at the same time can be used for setting the valve in the off or on position during assembly

2.

Two-pipe heating system

When installing VENTIL KOMPAKT steel panel radiators, it is necessary to preset the valve to such a position that the radiator will perform as calculated. It is the responsibility of the installer to make sure this has been done.

At the factory the valve is preset at level 8 and after rinsing and before the start of the heating test it must be set by a special key to the desired position.



Example of calculation

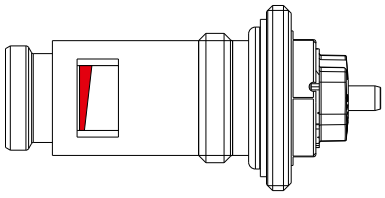
Target value: level of valve setting

Values known:	heat output	Q	=	1135 W
	cooling of water	$t_1 - t_2$	=	15 K (65/50 °C)
	pressure loss of radiator with valve	Δp	=	30 mbar
	heat capacity of water	c	=	1,163 Wh/kg.K

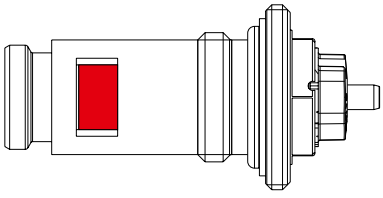
Solution: mass flow

$$m = \frac{Q}{c.\,(t_1 - t_2)} = \frac{1135}{1{,}163.\ 15} = 65\ \text{kg/h}$$

level of presetting (see diagram): 4



Level 4 presetting



Level 8 presetting

SVÚOM PRAHA – INFORMATION

(I.E. STATE RESEARCH INSTITUTE FOR PROTECTION OF MATERIALS)

The below given information defines conditions for appropriate using steel radiators which are protected with final surface finish in accordance with DIN 55 900 standard. It also specifies critical locations, spaces and environment limiting their applications. KORADO, a.s. (joint-stock co.) recommends the below given advice to be strictly respected at all practical applications because this will be taken into consideration in case of judgement and evaluation of any future
claims and/or complaints.

POSSIBILITIES AND LIMITATIONS FOR USING STEEL RADIATORS WITH SURFACE FINISH ACCORDING TO DIN 55 900 STANDARD:

(Explicit comment from the Prague State Research Institute for Protection of Materials)

1. REQUIREMENTS FOR SURFACE FINISH OF RADIATORS

1.1 General

The requirements concerning the surface finish of radiators are defined in German standard DIN 55 900 which bears the following title: "Surface finish of radiators. Terminology, requirements, tests. Surface finish made industrially." The said standard relates to materials which are used for surface finish of radiators and it is binding for industrially made surface finish of radiators for hot water heating and low pressure steam heating (temperature of the heat-carrying medium up to 120 °C). The object of the said standard in not surface finish of radiators
operating with temperatures exceeding 120 °C or which are to be used in spaces with aggressive and/or humid environment air. Kitchens, bathrooms etc. and places outside the reach of water shower spraying and toilets are not considered to be spaces with aggressive and/or humid environment air.
The DIN 55 900 standard is divided into 2 parts: DIN 55 900-1 defines the base paint layer for radiators, DIN 55 900-2 defines the final surface finish of radiators. The said standard specifies reguirements on paint coating materials applicable for surface finish, i.e. both their physical-mechanical properties (adhesion, impact resistance)and corrosion resistance (resistance against condensating water).
In general terms, the said standard also requires that radiators with final paint coating must be protected appropriately for and during: transportation, storage, and mounting, and it must be possible to clean the radiators surface with common detergents (non abbrasive).
The said standard is the basis for definition and assessment of the surface finish quality and for compliance with all principles therein stipulated, all of which is binding both for manufacturers and users of radiators. B reach of the scope of the standard DIN 55 900 by the user may be the cause of extinction of the producer´s quarantees.

2. QUALITATIVE DESCRIPTION OF TYPICAL ENVIRONMENTS

The qualitative description of typical environments with relevant grades of corrosivity is given in the table under the following title:
Qualitative description of typical environments for judgement of corrosivity grades:

Corrosivity grade	Corrosivity	Examples of typical interior environments
C-1	Very low	Heated spaces with relative low humidity (30 – 65 %) and with negligible uncleanliness, e.g. office premises, schools, museums, flats, hotels, shops, etc.
C-2	Low	Unsufficiently heated spaces with changeable temperature and with relative humidity exceeding 70 %. Rare occurrence of condensation and minor uncleanliness, e.g. warehouses, corridors, gym halls, etc.
C-3	Average	Spaces with average occurrence of condensation and with average uncleanliness caused by technological or other processes, e.g. food production premises, laundry plants, breweries, dairy houses, meat packing factories, etc.
C-4	High	Spaces with high occurrence of condensation and with average uncleanliness caused by technological or other processes, e.g. industrial manufacturing premises, swimming pools, bath houses, car-washing facilities, public WCs, stables, etc..
C-5	Very High	Spaces with nearly constant occurrence of condensation and/or with high uncleanliness caused by technological processes, e.g. mining premises, underground technological spaces/rooms/halls, unaired shelters in tropical humid areas.

The radiators with surface finish complying with the DIN 55 900 standard are applicable in spaces/premises with C 1 interior air environment without limitation for a long period of service.
However, pursuant to the DIN 55 900-2 standard, the radiators must not be placed in spaces with aggressive or humid environment air (C2 – C5). Any placement of such radiators in the lower defined spaces must be considered as critical.

3. POSSIBILITIES AND LIMITATIONS FOR USING STEEL RADIATORS WITH SURFACE FINISH COMPLYING WITH DIN 55 900 STANDARD:

3.1 Spaces with possible water spray or water solutions spray

In spaces/premises with the C1 interior environment air, e.g.
in flats, offices, schools and other public buildings, there are also some rooms (kitchens, bathrooms, toilets) wherein some places with corrosion activity of C2 – C5 can be found.
These are places within a direct reach of water spray or water solutions spray (e.g. places under kitchen sinks, under wash-basins, under showers, and some other places which are regularly sprayed with water). Such places are considered as spaces with humid or aggressive environment air and they are not suitable for placing radiators there even though the whole rooms in question (i.e. kitchens, bathrooms, toilets) are not considered to have aggressive or humid environment air.

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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).

Quality of steel panel radiators RADIK

The high quality of radiators has been confirmed by acquiring the right to use the national quality marks for the European markets. This marks declares that the stipulated requirements on quality of material, technology, production process and tests of radiators RADIK are strictly followed.

Our company is a proud holder of ISO 14001:2015 certification which testifies that we meet the international environmental standards.The well-established quality management system according to ISO 9001 in combination with the national quality marks guarantees the highest degree in achieving a permanent quality of products and all activities of KORADO company on European as well as world-wide markets.

- **Quality management system according to ISO 9001**

- **Environmental management system in accordance with iso 14001**

- **Quality mark RAL for the German market**

  is granted for the following range of panel radiators RADIK

Reg. No. GZ	Model	Type
0320	RADIK HYGIENE	Type 10
	RADIK HYGIENE VK	Type 10
0321	RADIK HYGIENE	Type 20S
	RADIK HYGIENE VK	Type 20S
0322	RADIK HYGIENE	Type 30
	RADIK HYGIENE VK	Type 30
0457	RADIK COMBI VK	Type 22
0565	RADIK VKM8	Type 10
	RADIK VKM8 - L	Type 10
0566	RADIK VKM8	Type 11
	RADIK VKM8 - L	Type 11
0567	RADIK VKM8	Type 20
	RADIK VKM8 - L	Type 20
	RADIK VKM8 - U	Type 20
0568	RADIK VKM8	Type 21
	RADIK VKM8 - L	Type 21
	RADIK VKM8 - U	Type 21
0569	RADIK VKM8	Type 22
	RADIK VKM8 - L	Type 22
	RADIK VKM8 - U	Type 22
0570	RADIK VKM8	Type 33
	RADIK VKM8 - L	Type 33
	RADIK VKM8 - U	Type 33
0571	RADIK KLASIK	Type 10
	RADIK VK	Type 10
	RADIK VKL	Type 10
	RADIK CLEAN	Type 10
	RADIK CLEAN VK	Type 10
0572	RADIK KLASIK	Type 20
	RADIK VK	Type 20
0573	RADIK CLEAN	Type 20S
	RADIK CLEAN VK	Type 20S
0574	RADIK CLEAN	Type 30
	RADIK CLEAN VK	Type 30

Reg. No. GZ	Model	Type
0578	RADIK PLAN KLASIK	Type 11
	RADIK LINE KLASIK	Type 11
	RADIK PLAN VK	Type 11
	RADIK LINE VK	Type 11
	RADIK PLAN VKL	Type 11
	RADIK LINE VKL	Type 11
0580	RADIK PLAN KLASIK	Type 21
	RADIK LINE KLASIK	Type 21
	RADIK PLAN VK	Type 21
	RADIK LINE VK	Type 21
	RADIK PLAN VKL	Type 21
	RADIK LINE VKL	Type 21
0581	RADIK PLAN KLASIK	Type 22
	RADIK LINE KLASIK	Type 22
	RADIK PLAN VK	Type 22
	RADIK LINE VK	Type 22
	RADIK PLAN VKL	Type 22
	RADIK LINE VKL	Type 22
0582	RADIK PLAN KLASIK	Type 33
	RADIK LINE KLASIK	Type 33
	RADIK PLAN VK	Type 33
	RADIK LINE VK	Type 33
	RADIK PLAN VKL	Type 33
	RADIK LINE VKL	Type 33
	RADIK PLAN VKM8	Type 33
	RADIK PLAN VKM8 - L	Type 33
	RADIK LINE VKM8	Type 33
	RADIK LINE VKM8 - L	Type 33
0583	RADIK PLAN VKM8	Type 11
	RADIK PLAN VKM8 - L	Type 11
	RADIK LINE VKM8	Type 11
	RADIK LINE VKM8 - L	Type 11
0584	RADIK PLAN VKM8	Type 20
	RADIK PLAN VKM8 - L	Type 20
	RADIK LINE VKM8	Type 20
	RADIK LINE VKM8 - L	Type 20
0585	RADIK PLAN VKM8	Type 21
	RADIK PLAN VKM8 - L	Type 21
	RADIK LINE VKM8	Type 21
	RADIK LINE VKM8 - L	Type 21
0586	RADIK PLAN VKM8	Type 22
	RADIK PLAN VKM8 - L	Type 22
	RADIK LINE VKM8	Type 22
	RADIK LINE VKM8 - L	Type 22
1120	RADIK KLASIK	Type 11
	RADIK VK	Type 11
	RADIK VKL	Type 11
1121	RADIK KLASIK	Type 21
	RADIK VK	Type 21
	RADIK VKU	Type 21
	RADIK VKL	Type 21
1122	RADIK KLASIK	Type 22
	RADIK VK	Type 22
	RADIK VKU	Type 22
	RADIK VKL	Type 22
1123	RADIK KLASIK	Type 33
	RADIK VK	Type 33
	RADIK VKU	Type 33
	RADIK VKL	Type 33
1182	RADIK MATERNELLE VK	Type 32
	RADIK MATERNELLE VKL	Type 32

Steel panel radiators RADIK - safety and conformity with the European directives and standards

- **European standard EN 442 for radiators**
- by using **CE mark** the producer confirms that the steel panel radiators **RADIK** are in conformity with the characteristics stated in the Declaration of Performance issued in conformity with the directive of EP and the Council (EU) No. 305/2011. This conformity was approved by the notified body No.1015, Strojírenský zkušební ústav, s.p. Brno.