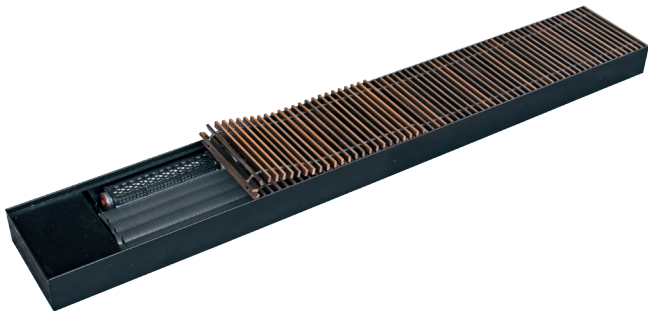


TECHNICAL CATALOGUE

**Floor convectors  
TKV-13 with  
forced convection**

We care about healthy air

# Floor convector with forced convection TKV-13



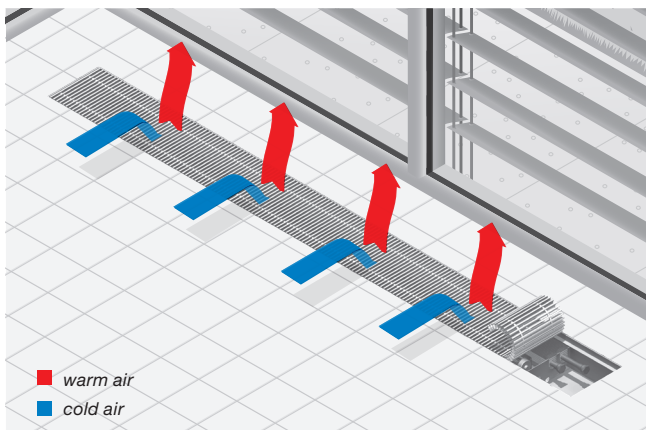
## TKV-13 floor convectors with forced convection

Forced convection floor convectors are designed for primary or secondary room heating with heating capacities up to 15 kW. They feature a low noise level during low fan speeds.

## Application

Floor convectors with forced convection are particularly suitable for primary or secondary heating of rooms, where faster heating and large heating capacities are required. They are installed into the floor, in the immediate proximity of windows, doors and other cold surfaces. Recommended distance between floor convector and glass surface is 50-200 mm.

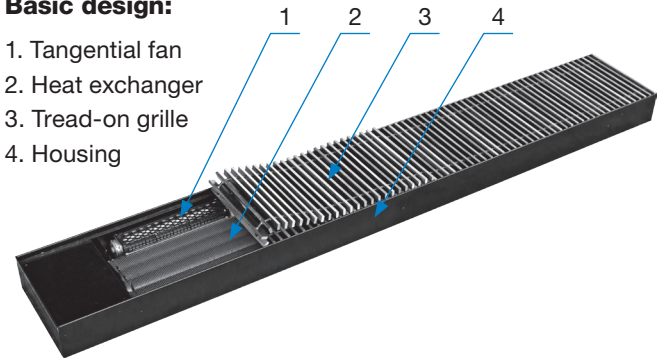
Floor convectors are used for partial covering heat losses, prevention of condensation on glass surfaces, reduction of the convection effect from cold surfaces and prevention of cold outside air intrusion.



## Components

### Basic design:

1. Tangential fan
2. Heat exchanger
3. Tread-on grille
4. Housing



## Dimensions

- Standard widths: 200, 300, 400 mm
- Standard heights: 80, 105, 140 mm
- Narrow version: width 150 mm, height 110 mm
- Available in 32 lengths from 900 - 5000 mm

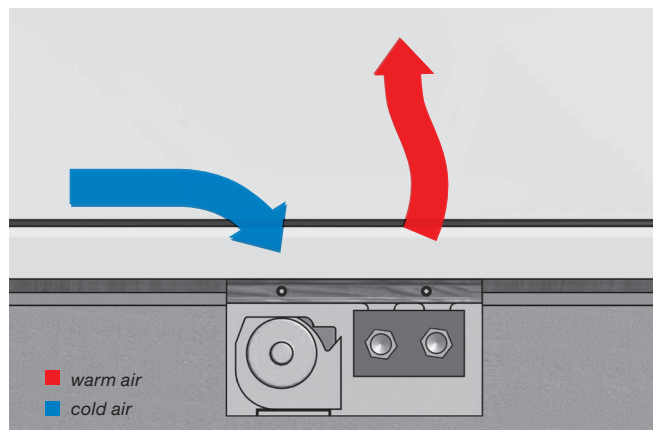
In the range up to 3000 mm lengths are available in the increments of 100 mm, while lengths over 3000 mm are available in the increments of 200 mm.

## Accessories

The basic version does not include regulation elements. For water side regulation, different types of valves are available, codes 01,...,VP2. For 3-step speed control of 230 V AC fan an autotransformer and, if necessary, a relay interface must be added. For stepless control of AC or EC fans a suitable controller must be selected. A broad range of thermostats is available to suit different customer's needs.

## Selection

User friendly selection software makes it easy to select the optimum floor convector for individual projects.



# Technical data

## TKV-13 Lx20x08

Housing length L [mm]	Fan speed	Heating capacity									Sound power	Sound pressure
		75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
		Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	L <sub>WA</sub>	L <sub>pA</sub>
AC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
900	MAX	559	48.0	0.01	652	28.0	<0.01	316	27.2	<0.01	44	38
	MED	427	36.7	0.01	502	21.6	<0.02	236	20.3	<0.02	35	29
	MIN	336	28.8	<0.01	397	17.0	<0.03	183	15.7	<0.03	<30	23
	STOP	95	8.1	<0.01	117	5.0	<0.04	45	3.9	<0.04	-	-
1000	MAX	577	49.5	0.02	675	29.0	0.01	322	27.7	<0.01	44	38
	MED	445	38.2	0.01	525	22.6	<0.01	243	20.9	<0.02	35	28
	MIN	353	30.4	0.01	419	18.0	<0.02	191	16.4	<0.03	<30	23
	STOP	112	9.6	<0.01	139	6.0	<0.03	54	4.6	<0.04	-	-
1100	MAX	594	51.1	0.02	699	30.0	0.01	328	28.2	0.01	44	37
	MED	463	39.7	0.01	548	23.5	<0.01	250	21.5	<0.01	35	28
	MIN	371	31.9	0.01	441	19.0	<0.02	198	17.1	<0.02	<30	23
	STOP	130	11.2	<0.01	161	6.9	<0.03	62	5.4	<0.03	-	-
1200	MAX	1082	93.0	0.07	1259	54.1	0.02	617	53.0	0.02	47	40
	MED	819	70.4	0.04	961	41.3	0.01	455	39.1	0.01	38	31
	MIN	636	54.7	0.02	750	32.2	0.01	349	30.0	0.01	32	26
	STOP	154	13.2	<0.01	190	8.2	<0.01	74	6.3	<0.01	-	-
1300	MAX	1100	94.5	0.08	1281	55.0	0.03	625	53.7	0.03	47	40
	MED	837	71.9	0.05	982	42.2	0.02	464	39.9	0.01	38	31
	MIN	654	56.2	0.03	772	33.2	0.01	357	30.7	0.01	32	26
	STOP	171	14.7	<0.01	212	9.1	<0.01	82	7.1	<0.01	-	-
1400	MAX	1118	96.0	0.09	1303	56.0	0.03	632	54.3	0.03	47	40
	MED	854	73.4	0.05	1005	43.2	0.02	472	40.5	0.02	38	31
	MIN	671	57.7	0.03	794	34.1	0.01	366	31.4	0.01	32	26
	STOP	189	16.3	<0.01	234	10.1	<0.01	91	7.8	<0.01	-	-
1500	MAX	1136	97.6	0.10	1327	57.0	0.04	639	54.9	0.03	47	40
	MED	872	74.9	0.06	1027	44.1	0.02	479	41.2	0.02	38	31
	MIN	689	59.2	0.04	816	35.0	0.01	374	32.1	0.01	32	26
	STOP	207	17.8	<0.01	256	11.0	<0.01	99	8.5	<0.01	-	-
1600	MAX	1153	99.1	0.12	1350	58.0	0.04	645	55.4	0.04	47	40
	MED	890	76.4	0.07	1050	45.1	0.02	487	41.8	0.02	38	31
	MIN	707	60.7	0.04	838	36.0	0.02	382	32.8	0.01	32	25
	STOP	224	19.3	<0.01	278	11.9	<0.01	108	9.3	<0.01	-	-
1700	MAX	1641	141.0	0.25	1910	82.0	0.09	934	80.2	0.08	48	41
	MED	1246	107.1	0.15	1463	62.8	0.05	692	59.4	0.05	39	32
	MIN	972	83.5	0.09	1147	49.3	0.03	532	45.7	0.03	34	27
	STOP	248	21.3	0.01	307	13.2	<0.01	119	10.2	<0.01	-	-
1800	MAX	1659	142.5	0.28	1932	83.0	0.09	941	80.9	0.09	48	41
	MED	1264	108.6	0.16	1485	63.8	0.06	700	60.1	0.05	39	32
	MIN	989	85.0	0.10	1168	50.2	0.03	540	46.4	0.03	34	27
	STOP	266	22.9	0.01	329	14.1	<0.01	128	11.0	<0.01	-	-
1900	MAX	1677	144.1	0.30	1955	84.0	0.10	948	81.5	0.10	48	41
	MED	1281	110.1	0.18	1507	64.7	0.06	708	60.8	0.05	39	32
	MIN	1007	86.5	0.11	1190	51.1	0.04	549	47.1	0.03	34	27
	STOP	284	24.4	0.01	351	15.1	<0.01	136	11.7	<0.01	-	-
2000	MAX	2165	186.0	0.54	2517	108.1	0.18	1234	106.1	0.18	50	42
	MED	1638	140.7	0.31	1921	82.5	0.11	911	78.3	0.10	41	33
	MIN	1272	109.3	0.19	1500	64.4	0.06	697	59.9	0.06	35	28
	STOP	307	26.4	0.01	380	16.3	0.00	148	12.7	<0.01	-	-
2100	MAX	2183	187.5	0.58	2539	109.1	0.20	1243	106.8	0.19	50	42
	MED	1656	142.2	0.33	1943	83.5	0.12	920	79.0	0.10	41	33
	MIN	1290	110.8	0.20	1522	65.4	0.07	706	60.7	0.06	35	28
	STOP	325	27.9	0.01	402	17.3	<0.01	156	13.4	<0.01	-	-

TKV-13 Lx20x08

Housing length L [mm]	Fan speed	Heating capacity									Sound power	Sound pressure
		75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
		Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	L <sub>WA</sub>	L <sub>PA</sub>
AC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
2200	MAX	2200	189.0	0.62	2561	110.0	0.21	1250	107.4	0.20	50	42
	MED	1673	143.8	0.36	1965	84.4	0.12	928	79.7	0.11	41	33
	MIN	1307	112.3	0.22	1543	66.3	0.08	715	61.4	0.07	35	28
	STOP	343	29.5	0.02	424	18.2	0.01	165	14.1	<0.01	-	-
2300	MAX	2218	190.6	0.67	2584	111.0	0.23	1258	108.1	0.21	50	42
	MED	1691	145.3	0.39	1987	85.4	0.13	936	80.4	0.12	41	33
	MIN	1325	113.9	0.24	1565	67.2	0.08	723	62.1	0.07	35	28
	STOP	361	31.0	0.02	446	19.2	0.01	173	14.9	<0.01	-	-
2400	MAX	2236	192.1	0.71	2607	112.0	0.24	1264	108.6	0.23	50	42
	MED	1709	146.8	0.42	2009	86.3	0.14	944	81.1	0.13	41	33
	MIN	1343	115.4	0.26	1587	68.2	0.09	731	62.8	0.08	35	27
	STOP	378	32.5	0.02	468	20.1	0.01	182	15.6	<0.01	-	-
2500	MAX	2724	234.0	1.11	3168	136.1	0.37	1551	133.3	0.36	51	43
	MED	2065	177.4	0.64	2423	104.1	0.22	1147	98.6	0.20	42	33
	MIN	1608	138.1	0.39	1897	81.5	0.13	880	75.6	0.12	36	28
	STOP	402	34.5	0.02	497	21.4	0.01	193	16.6	0.01	-	-
2600	MAX	2741	235.6	1.17	3190	137.1	0.40	1559	134.0	0.38	51	43
	MED	2083	178.9	0.68	2445	105.0	0.23	1156	99.3	0.21	42	33
	MIN	1625	139.7	0.41	1918	82.4	0.14	889	76.4	0.12	36	28
	STOP	420	36.1	0.03	519	22.3	0.01	201	17.3	0.01	-	-
2700	MAX	2759	237.1	1.24	3213	138.0	0.42	1567	134.6	0.40	51	42
	MED	2100	180.5	0.72	2467	106.0	0.25	1164	100.0	0.22	42	33
	MIN	1643	141.2	0.44	1940	83.3	0.15	898	77.1	0.13	36	28
	STOP	437	37.6	0.03	541	23.2	0.01	210	18.0	0.01	-	-
2800	MAX	3247	279.0	1.79	3776	162.2	0.60	1851	159.1	0.58	52	43
	MED	2457	211.1	1.02	2882	123.8	0.35	1366	117.4	0.32	42	34
	MIN	1908	163.9	0.62	2250	96.7	0.21	1046	89.9	0.19	37	29
	STOP	461	39.6	0.04	570	24.5	0.01	221	19.0	0.01	-	-
2900	MAX	3265	280.5	1.88	3797	163.1	0.64	1860	159.8	0.61	52	43
	MED	2474	212.6	1.08	2903	124.7	0.37	1375	118.2	0.33	42	34
	MIN	1926	165.5	0.65	2272	97.6	0.23	1055	90.6	0.20	37	29
	STOP	479	41.1	0.04	592	25.4	0.02	230	19.7	0.01	-	-
3000	MAX	3283	282.1	1.98	3820	164.1	0.67	1868	160.5	0.64	52	43
	MED	2492	214.1	1.14	2925	125.7	0.39	1384	118.9	0.35	42	34
	MIN	1944	167.0	0.69	2293	98.5	0.24	1063	91.4	0.21	37	29
	STOP	497	42.7	0.05	614	26.4	0.02	238	20.5	0.01	-	-
3200	MAX	3318	285.1	2.17	3864	166.0	0.74	1883	161.8	0.70	52	43
	MED	2528	217.2	1.26	2969	127.6	0.43	1400	120.3	0.39	42	34
	MIN	1979	170.0	0.77	2337	100.4	0.27	1081	92.8	0.23	37	28
	STOP	532	45.7	0.06	658	28.3	0.02	255	21.9	0.01	-	-
3400	MAX	3353	288.1	2.37	3910	168.0	0.81	1897	163.0	0.76	52	43
	MED	2563	220.2	1.38	3014	129.5	0.48	1416	121.6	0.42	42	33
	MIN	2014	173.1	0.86	2381	102.3	0.30	1097	94.3	0.25	37	28
	STOP	567	48.7	0.07	702	30.1	0.03	272	23.4	0.02	-	-
3600	MAX	3389	291.2	2.58	3957	170.0	0.88	1910	164.1	0.82	52	42
	MED	2598	223.2	1.52	3059	131.4	0.52	1431	122.9	0.46	42	33
	MIN	2050	176.1	0.94	2425	104.2	0.33	1113	95.7	0.28	37	28
	STOP	603	51.8	0.08	745	32.0	0.03	289	24.9	0.02	-	-
3800	MAX	4365	375.1	4.54	5078	218.1	1.53	2485	213.5	1.47	53	43
	MED	3311	284.5	2.61	3886	166.9	0.90	1839	158.0	0.81	44	34
	MIN	2580	221.6	1.58	3043	130.7	0.55	1412	121.3	0.47	38	29
	STOP	650	55.9	0.10	804	34.6	0.04	312	26.8	0.02	-	-

## TKV-13 Lx20x08

Housing length L [mm]	Fan speed	Heating capacity									Sound power $L_{WA}$	Sound pressure $L_{pA}$
		75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
		$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$		
AC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
4000	MAX	4401	378.1	4.88	5123	220.1	1.65	2501	214.8	1.57	53	43
	MED	3346	287.5	2.82	3929	168.8	0.97	1856	159.5	0.87	44	34
	MIN	2615	224.7	1.72	3086	132.6	0.60	1429	122.8	0.51	38	29
	STOP	686	58.9	0.12	848	36.4	0.05	329	28.3	0.03	-	-
4200	MAX	4436	381.1	5.22	5168	222.0	1.77	2515	216.1	1.68	53	43
	MED	3382	290.6	3.04	3974	170.7	1.05	1872	160.8	0.93	44	34
	MIN	2650	227.7	1.86	3130	134.5	0.65	1446	124.3	0.56	38	29
	STOP	721	62.0	0.14	892	38.3	0.05	346	29.7	0.03	-	-
4400	MAX	4471	384.2	5.58	5214	224.0	1.90	2529	217.3	1.79	53	43
	MED	3417	293.6	3.26	4018	172.6	1.13	1888	162.2	0.99	44	34
	MIN	2686	230.8	2.01	3174	136.4	0.70	1463	125.7	0.60	38	29
	STOP	756	65.0	0.16	936	40.2	0.06	363	31.2	0.04	-	-
4600	MAX	4507	387.2	5.95	5260	226.0	2.02	2542	218.4	1.89	53	43
	MED	3453	296.6	3.49	4063	174.6	1.21	1903	163.5	1.06	44	34
	MIN	2721	233.8	2.17	3218	138.3	0.76	1479	127.1	0.64	38	29
	STOP	792	68.0	0.18	979	42.1	0.07	380	32.7	0.04	-	-
4800	MAX	5483	471.1	9.21	6381	274.1	3.12	3118	267.9	2.98	54	44
	MED	4165	357.9	5.32	4890	210.1	1.83	2312	198.6	1.64	45	35
	MIN	3251	279.3	3.24	3836	164.8	1.13	1778	152.8	0.97	39	29
	STOP	839	72.1	0.22	1038	44.6	0.08	403	34.6	0.05	-	-
5000	MAX	5518	474.1	9.75	6426	276.0	3.30	3133	269.2	3.14	54	44
	MED	4201	360.9	5.65	4934	212.0	1.95	2328	200.0	1.73	45	34
	MIN	3286	282.4	3.46	3880	166.7	1.20	1795	154.3	1.03	39	29
	STOP	875	75.2	0.24	1082	46.5	0.09	420	36.1	0.06	-	-

**Note:** The level of sound pressure  $L_{pA}$  is calculated based on the level of sound power  $L_{WA}$  emitted by the noise source at a certain distance (1 m) and depends on the installation type (free space or next to a wall).

$Q_h$  [W]: Heating capacity  $\dot{m}_w$  [kg/h]: Water flow  $\Delta p_w$  [kPa]: Pressure drop on the water side

# Technical data

## TKV-13 Lx30x08

Housing length L [mm]	Fan speed	Heating capacity									Sound power $L_{WA}$ [dB(A)]	Sound pressure $L_{pA}$ [dB(A)]
		75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
		$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$		
AC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
900	MAX	757	65.0	0.04	883	37.9	0.01	428	36.7	0.01	44	38
	MED	568	48.8	0.02	669	28.7	0.01	312	26.8	0.01	36	30
	MIN	445	38.2	0.01	526	22.6	0.01	242	20.8	<0.01	31	25
	STOP	149	12.8	<0.01	186	8.0	<0.01	70	6.0	<0.01	-	-
1000	MAX	784	67.4	0.05	919	39.5	0.02	437	37.6	0.02	44	38
	MED	595	51.1	0.03	704	30.2	0.01	323	27.8	0.01	36	30
	MIN	472	40.6	0.02	560	24.1	0.01	254	21.8	0.01	31	25
	STOP	176	15.2	<0.01	220	9.5	<0.01	83	7.1	<0.01	-	-
1100	MAX	811	69.7	0.07	956	41.1	0.02	446	38.3	0.02	44	38
	MED	622	53.5	0.04	739	31.8	0.01	334	28.7	0.01	36	30
	MIN	499	42.9	0.03	595	25.6	0.01	266	22.8	0.01	31	25
	STOP	204	17.5	<0.01	254	10.9	<0.01	96	8.2	<0.01	-	-
1200	MAX	1459	125.4	0.25	1697	72.9	0.08	832	71.5	0.08	47	41
	MED	1081	92.9	0.13	1270	54.6	0.05	599	51.5	0.04	39	33
	MIN	835	71.8	0.08	985	42.3	0.03	457	39.3	0.02	34	28
	STOP	244	20.9	0.01	304	13.1	<0.01	114	9.8	<0.01	-	-
1300	MAX	1487	127.7	0.28	1731	74.4	0.10	844	72.5	0.09	47	40
	MED	1108	95.2	0.16	1303	56.0	0.05	612	52.6	0.05	39	33
	MIN	863	74.1	0.10	1019	43.8	0.03	471	40.5	0.03	34	28
	STOP	271	23.3	0.01	338	14.5	0.00	127	10.9	0.00	-	-
1400	MAX	1514	130.1	0.33	1766	75.9	0.11	855	73.5	0.10	47	40
	MED	1136	97.6	0.18	1338	57.5	0.06	624	53.6	0.06	39	33
	MIN	890	76.5	0.11	1052	45.2	0.04	484	41.6	0.03	34	28
	STOP	298	25.6	0.01	372	16.0	<0.01	140	12.0	<0.01	-	-
1500	MAX	1541	132.4	0.37	1802	77.4	0.13	865	74.3	0.12	47	40
	MED	1163	99.9	0.21	1372	59.0	0.07	636	54.6	0.06	39	32
	MIN	917	78.8	0.13	1086	46.7	0.05	496	42.6	0.04	34	28
	STOP	326	28.0	0.02	406	17.4	0.01	153	13.1	<0.01	-	-
1600	MAX	1568	134.8	0.42	1838	79.0	0.14	875	75.1	0.13	47	40
	MED	1190	102.3	0.24	1407	60.5	0.08	647	55.6	0.07	39	32
	MIN	944	81.1	0.15	1121	48.2	0.05	508	43.7	0.04	34	27
	STOP	353	30.3	0.02	440	18.9	0.01	166	14.2	<0.01	-	-
1700	MAX	2216	190.4	0.90	2579	110.8	0.30	1260	108.3	0.29	49	42
	MED	1649	141.7	0.50	1938	83.3	0.17	912	78.3	0.15	41	34
	MIN	1280	110.0	0.30	1511	64.9	0.10	700	60.1	0.09	36	29
	STOP	393	33.8	0.03	490	21.1	0.01	184	15.8	0.01	-	-
1800	MAX	2243	192.8	0.99	2614	112.3	0.34	1272	109.3	0.32	49	41
	MED	1676	144.0	0.55	1972	84.7	0.19	924	79.4	0.17	41	34
	MIN	1307	112.3	0.34	1545	66.4	0.12	713	61.3	0.10	36	29
	STOP	420	36.1	0.03	524	22.5	0.01	197	16.9	0.01	-	-
1900	MAX	2271	195.1	1.09	2649	113.8	0.37	1283	110.2	0.35	49	41
	MED	1703	146.3	0.61	2006	86.2	0.21	936	80.4	0.18	41	34
	MIN	1335	114.7	0.38	1578	67.8	0.13	726	62.4	0.11	36	29
	STOP	447	38.4	0.04	558	24.0	0.02	210	18.0	0.01	-	-
2000	MAX	2919	250.8	1.91	3394	145.8	0.65	1664	143.0	0.62	50	42
	MED	2162	185.8	1.05	2540	109.1	0.36	1198	102.9	0.32	42	35
	MIN	1671	143.5	0.63	1971	84.7	0.22	915	78.6	0.19	37	30
	STOP	488	41.9	0.05	608	26.1	0.02	229	19.7	0.01	-	-
2100	MAX	2946	253.1	2.07	3427	147.2	0.70	1676	144.0	0.67	50	42
	MED	2189	188.1	1.14	2573	110.5	0.39	1211	104.1	0.35	42	35
	MIN	1698	145.9	0.69	2004	86.1	0.24	929	79.8	0.21	37	30
	STOP	515	44.2	0.06	642	27.6	0.02	242	20.8	0.01	-	-

**TKV-13 Lx30x08**

Housing length L [mm]	Fan speed	Heating capacity									Sound power	Sound pressure
		75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
		Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	L <sub>WA</sub>	L <sub>pA</sub>
AC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
2200	MAX	2973	255.4	2.23	3462	148.7	0.75	1688	145.1	0.72	50	42
	MED	2217	190.4	1.24	2607	112.0	0.43	1224	105.2	0.38	42	35
	MIN	1725	148.2	0.75	2037	87.5	0.26	942	80.9	0.22	37	30
	STOP	542	46.6	0.07	676	29.0	0.03	254	21.9	0.02	-	-
2300	MAX	3000	257.8	2.39	3496	150.2	0.81	1700	146.0	0.77	50	42
	MED	2244	192.8	1.34	2641	113.5	0.46	1236	106.2	0.41	42	34
	MIN	1752	150.6	0.82	2071	89.0	0.28	955	82.0	0.24	37	30
	STOP	569	48.9	0.09	710	30.5	0.03	267	23.0	0.02	-	-
2400	MAX	3028	260.1	2.56	3532	151.7	0.87	1710	147.0	0.82	50	42
	MED	2271	195.1	1.44	2675	114.9	0.50	1248	107.3	0.43	42	34
	MIN	1780	152.9	0.88	2105	90.4	0.31	968	83.1	0.26	37	29
	STOP	597	51.3	0.10	744	32.0	0.04	280	24.1	0.02	-	-
2500	MAX	3675	315.8	3.96	4276	183.7	1.34	2093	179.8	1.28	51	43
	MED	2730	234.5	2.18	3208	137.8	0.75	1510	129.8	0.67	43	35
	MIN	2116	181.8	1.31	2496	107.2	0.46	1157	99.4	0.39	38	30
	STOP	637	54.7	0.12	794	34.1	0.05	299	25.7	0.03	-	-
2600	MAX	3703	318.1	4.20	4310	185.1	1.42	2105	180.8	1.36	51	43
	MED	2757	236.9	2.33	3242	139.3	0.81	1523	130.9	0.71	43	35
	MIN	2143	184.1	1.41	2530	108.7	0.49	1171	100.6	0.42	38	30
	STOP	664	57.0	0.14	828	35.6	0.05	311	26.8	0.03	-	-
2700	MAX	3730	320.5	4.45	4344	186.6	1.51	2116	181.8	1.43	51	43
	MED	2784	239.2	2.48	3275	140.7	0.86	1536	132.0	0.76	43	35
	MIN	2170	186.5	1.51	2563	110.1	0.53	1184	101.7	0.45	38	30
	STOP	691	59.4	0.15	862	37.0	0.06	324	27.9	0.03	-	-
2800	MAX	4378	376.1	6.40	5090	218.7	2.16	2496	214.4	2.08	52	43
	MED	3243	278.6	3.51	3810	163.7	1.21	1796	154.4	1.08	44	36
	MIN	2506	215.3	2.10	2956	127.0	0.73	1372	117.9	0.63	39	31
	STOP	731	62.8	0.18	912	39.2	0.07	343	29.5	0.04	-	-
2900	MAX	4405	378.5	6.74	5124	220.1	2.28	2509	215.5	2.19	52	43
	MED	3270	281.0	3.72	3843	165.1	1.28	1810	155.5	1.14	44	36
	MIN	2533	217.7	2.23	2989	128.4	0.78	1386	119.1	0.67	39	31
	STOP	759	65.2	0.20	946	40.6	0.08	356	30.6	0.04	-	-
3000	MAX	4432	380.8	7.09	5158	221.6	2.40	2521	216.6	2.29	52	43
	MED	3298	283.3	3.93	3876	166.5	1.36	1823	156.6	1.20	44	36
	MIN	2560	220.0	2.37	3022	129.8	0.82	1400	120.2	0.71	39	31
	STOP	786	67.5	0.22	980	42.1	0.09	369	31.7	0.05	-	-
3200	MAX	4487	385.5	7.82	5227	224.6	2.65	2544	218.6	2.51	52	43
	MED	3352	288.0	4.36	3944	169.4	1.51	1848	158.8	1.33	44	35
	MIN	2615	224.7	2.66	3089	132.7	0.93	1426	122.5	0.79	39	30
	STOP	840	72.2	0.27	1048	45.0	0.11	394	33.9	0.06	-	-
3400	MAX	4541	390.2	8.58	5298	227.6	2.92	2565	220.4	2.74	52	43
	MED	3407	292.7	4.83	4013	172.4	1.67	1873	160.9	1.46	44	35
	MIN	2669	229.4	2.96	3157	135.6	1.04	1451	124.7	0.88	39	30
	STOP	895	76.9	0.33	1116	47.9	0.13	420	36.1	0.07	-	-
3600	MAX	4596	394.9	9.36	5369	230.7	3.19	2586	222.2	2.96	52	43
	MED	3461	297.4	5.31	4082	175.4	1.85	1896	162.9	1.59	44	35
	MIN	2724	234.0	3.29	3225	138.6	1.15	1476	126.8	0.97	39	30
	STOP	949	81.6	0.40	1184	50.9	0.16	445	38.3	0.09	-	-
3800	MAX	5892	506.2	16.33	6855	294.5	5.53	3353	288.1	5.29	53	44
	MED	4379	376.2	9.02	5146	221.1	3.12	2422	208.1	2.76	45	36
	MIN	3396	291.8	5.43	4007	172.2	1.89	1857	159.6	1.62	40	31
	STOP	1030	88.5	0.50	1284	55.2	0.19	483	41.5	0.11	-	-

## TKV-13 Lx30x08

Housing length L [mm]	Fan speed	Heating capacity									Sound power $L_{wA}$ [dB(A)]	Sound pressure $L_{pA}$ [dB(A)]
		75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
		$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$		
AC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
4000	MAX	5946	510.9	17.60	6923	297.4	5.97	3377	290.1	5.68	53	44
	MED	4433	380.9	9.78	5214	224.0	3.38	2448	210.3	2.98	45	36
	MIN	3450	296.4	5.93	4074	175.0	2.07	1884	161.8	1.77	40	31
	STOP	1084	93.1	0.59	1352	58.1	0.23	509	43.7	0.13	-	-
4200	MAX	6001	515.6	18.91	6993	300.4	6.42	3399	292.1	6.07	53	43
	MED	4488	385.6	10.58	5282	226.9	3.66	2473	212.4	3.21	45	36
	MIN	3505	301.1	6.45	4142	177.9	2.25	1910	164.1	1.92	40	31
	STOP	1139	97.8	0.68	1420	61.0	0.26	534	45.9	0.15	-	-
4400	MAX	6055	520.3	20.26	7063	303.4	6.89	3421	293.9	6.46	53	43
	MED	4542	390.3	11.40	5350	229.9	3.95	2497	214.5	3.44	45	36
	MIN	3559	305.8	7.00	4209	180.8	2.45	1935	166.3	2.07	40	31
	STOP	1193	102.5	0.79	1488	63.9	0.31	560	48.1	0.17	-	-
4600	MAX	6110	524.9	21.64	7135	306.5	7.38	3441	295.7	6.87	53	43
	MED	4597	394.9	12.25	5420	232.8	4.26	2520	216.5	3.68	45	35
	MIN	3614	310.5	7.57	4277	183.8	2.65	1960	168.4	2.23	40	31
	STOP	1248	107.2	0.90	1556	66.8	0.35	585	50.3	0.20	-	-
4800	MAX	7405	636.3	33.30	8619	370.3	11.28	4209	361.7	10.76	54	44
	MED	5514	473.8	18.46	6483	278.5	6.38	3047	261.8	5.64	46	36
	MIN	4286	368.2	11.15	5059	217.3	3.89	2341	201.2	3.33	41	31
	STOP	1328	114.1	1.07	1656	71.1	0.42	623	53.5	0.24	-	-
5000	MAX	7460	641.0	35.31	8689	373.3	11.98	4232	363.7	11.37	54	44
	MED	5569	478.5	19.68	6551	281.4	6.81	3072	264.0	5.99	46	36
	MIN	4340	372.9	11.95	5126	220.2	4.17	2368	203.4	3.56	41	31
	STOP	1382	118.8	1.21	1724	74.1	0.47	649	55.7	0.27	-	-

**Note:** The level of sound pressure  $L_{pA}$  is calculated based on the level of sound power  $L_{wA}$  emitted by the noise source at a certain distance (1 m) and depends on the installation type (free space or next to a wall).

$Q_h$  [W]: Heating capacity  $\dot{m}_w$  [kg/h]: Water flow  $\Delta p_w$  [kPa]: Pressure drop on the water side

## Other technical data for TKV-13 Lx20x08, Lx30x08

Housing length [mm]	Fan designation (max. no. of fans)	Water connectors dimensions ["]	Air flow [m <sup>3</sup> /h]	Max. input power [W]	Max. input current [A]
900-1100	1 1	1/2	80	5	0.04
1200-1600	1 2	1/2	160	9	0.08
1700-1900	2 3	1/2	240	14	0.12
2000-2400	2 4	1/2	320	18	0.16
2500-2700	3 5	1/2	400	23	0.20
2800-3600	3 6	1/2	480	27	0.24
3800-4600	4 8	1/2	640	36	0.32
4800-5000	5 10	1/2	800	45	0.40

# Technical data

## TKV-13 Lx20x10

Housing length L [mm]	Fan speed		Heating capacity									Sound power	Sound pressure
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	L <sub>WA</sub>	L <sub>PA</sub>
AC	EC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
900	MAX	100%	577	49.6	0.01	670	28.8	<0.01	330	28.4	<0.01	43	37
	MED	70%	453	38.9	0.01	529	22.7	<0.01	254	21.9	<0.01	34	28
	MIN	50%	362	31.1	0.01	428	18.4	<0.01	197	16.9	<0.01	<30	23
	-	30%	266	22.8	<0.01	318	13.6	<0.01	140	12.0	<0.01	<30	<20
	STOP		109	9.4	<0.01	135	5.8	<0.01	52	4.5	<0.01	-	-
1000	MAX	100%	596	51.2	0.02	695	29.9	0.01	336	28.9	0.01	43	37
	MED	70%	471	40.5	0.01	553	23.8	<0.01	262	22.5	<0.01	34	28
	MIN	50%	381	32.7	0.01	451	19.4	<0.01	205	17.6	<0.01	<30	23
	-	30%	284	24.4	<0.01	340	14.6	<0.01	149	12.8	<0.01	<30	<20
	STOP		127	11.0	<0.01	158	6.8	<0.01	61	5.2	<0.01	-	-
1100	MAX	100%	614	52.8	0.02	720	30.9	0.01	342	29.4	0.01	43	36
	MED	70%	490	42.1	0.01	577	24.8	<0.01	269	23.1	<0.01	34	27
	MIN	50%	399	34.3	0.01	475	20.4	<0.01	213	18.3	<0.01	<30	23
	-	30%	302	26.0	<0.01	363	15.6	<0.01	157	13.5	<0.01	<30	<20
	STOP		146	12.5	<0.01	181	7.8	<0.01	70	6.0	<0.01	-	-
1200	MAX	100%	1118	96.0	0.08	1294	55.6	0.03	645	55.4	0.03	46	39
	MED	70%	869	74.7	0.05	1013	43.5	0.02	492	42.3	0.01	37	30
	MIN	50%	688	59.1	0.03	811	34.9	0.01	377	32.4	0.01	32	25
	-	30%	494	42.5	0.01	590	25.4	0.01	262	22.5	<0.01	<30	21
	STOP		181	15.6	<0.01	225	9.7	<0.01	87	7.5	<0.01	-	-
1300	MAX	100%	1136	97.6	0.09	1317	56.6	0.03	653	56.1	0.03	46	39
	MED	70%	887	76.2	0.05	1035	44.5	0.02	501	43.0	0.02	37	30
	MIN	50%	706	60.7	0.03	834	35.8	0.01	386	33.2	0.01	32	25
	-	30%	513	44.1	0.02	613	26.3	0.01	271	23.3	<0.01	<30	21
	STOP		200	17.2	<0.01	248	10.6	<0.01	95	8.2	<0.01	-	-
1400	MAX	100%	1154	99.2	0.10	1341	57.6	0.03	660	56.8	0.03	46	39
	MED	70%	906	77.8	0.06	1059	45.5	0.02	509	43.7	0.02	37	30
	MIN	50%	725	62.3	0.04	857	36.8	0.01	394	33.9	0.01	32	25
	-	30%	531	45.6	0.02	635	27.3	0.01	280	24.1	0.01	<30	21
	STOP		218	18.8	<0.01	270	11.6	<0.01	104	9.0	<0.01	-	-
1500	MAX	100%	1173	100.8	0.11	1365	58.6	0.04	667	57.3	0.04	46	39
	MED	70%	924	79.4	0.07	1082	46.5	0.02	516	44.4	0.02	37	30
	MIN	50%	743	63.8	0.04	880	37.8	0.02	403	34.6	0.01	32	25
	-	30%	550	47.2	0.02	658	28.3	0.01	289	24.8	0.01	<30	21
	STOP		237	20.3	<0.01	293	12.6	<0.01	113	9.7	<0.01	-	-
1600	MAX	100%	1191	102.3	0.12	1390	59.7	0.04	673	57.8	0.04	46	39
	MED	70%	942	81.0	0.08	1106	47.5	0.03	524	45.0	0.02	37	30
	MIN	50%	761	65.4	0.05	903	38.8	0.02	411	35.3	0.01	32	25
	-	30%	568	48.8	0.03	681	29.2	0.01	297	25.6	0.01	<30	21
	STOP		255	21.9	0.01	316	13.6	<0.01	122	10.5	<0.01	-	-
1700	MAX	100%	1695	145.6	0.27	1964	84.4	0.09	976	83.9	0.09	47	40
	MED	70%	1322	113.6	0.17	1542	66.2	0.06	747	64.2	0.05	38	31
	MIN	50%	1050	90.2	0.10	1239	53.2	0.04	574	49.3	0.03	34	26
	-	30%	760	65.3	0.05	908	39.0	0.02	402	34.6	0.02	<30	22
	STOP		291	25.0	0.01	360	15.5	<0.01	139	11.9	<0.01	-	-

# TKV-13 Lx20x10

Housing length L [mm]	Fan speed		Heating capacity									Sound power L <sub>WA</sub>	Sound pressure L <sub>pA</sub>
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			Q <sub>h</sub>	m <sub>w</sub>	Δp <sub>w</sub>	Q <sub>h</sub>	m <sub>w</sub>	Δp <sub>w</sub>	Q <sub>h</sub>	m <sub>w</sub>	Δp <sub>w</sub>		
AC	EC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
1800	MAX	100%	1713	147.2	0.30	1987	85.4	0.10	984	84.5	0.10	47	40
	MED	70%	1340	115.2	0.18	1565	67.2	0.06	755	64.9	0.06	38	31
	MIN	50%	1069	91.8	0.12	1262	54.2	0.04	583	50.1	0.03	34	26
	-	30%	778	66.9	0.06	930	40.0	0.02	411	35.3	0.02	<30	22
	STOP		309	26.5	0.01	383	16.4	<0.01	148	12.7	<0.01	-	-
1900	MAX	100%	1732	148.8	0.32	2011	86.4	0.11	991	85.1	0.11	47	40
	MED	70%	1359	116.7	0.20	1588	68.2	0.07	763	65.6	0.06	38	31
	MIN	50%	1087	93.4	0.13	1285	55.2	0.04	592	50.8	0.04	34	26
	-	30%	797	68.5	0.07	953	40.9	0.02	420	36.1	0.02	<30	22
	STOP		327	28.1	0.01	405	17.4	0.00	156	13.4	0.00	-	-
2000	MAX	100%	2235	192.1	0.57	2588	111.2	0.19	1290	110.9	0.19	49	41
	MED	70%	1738	149.3	0.35	2026	87.0	0.12	984	84.6	0.11	40	32
	MIN	50%	1376	118.2	0.22	1623	69.7	0.08	754	64.7	0.07	35	27
	-	30%	989	85.0	0.11	1180	50.7	0.04	524	45.0	0.03	31	23
	STOP		363	31.2	0.02	450	19.3	0.01	173	14.9	<0.01	-	-
2100	MAX	100%	2254	193.6	0.62	2610	112.1	0.21	1299	111.6	0.21	49	41
	MED	70%	1756	150.9	0.38	2048	88.0	0.13	993	85.3	0.12	40	32
	MIN	50%	1394	119.8	0.24	1645	70.7	0.08	763	65.5	0.07	35	27
	-	30%	1007	86.6	0.12	1203	51.7	0.04	533	45.8	0.03	31	23
	STOP		381	32.8	0.02	472	20.3	0.01	182	15.7	<0.01	-	-
2200	MAX	100%	2272	195.2	0.66	2634	113.1	0.22	1307	112.3	0.22	49	41
	MED	70%	1775	152.5	0.41	2071	89.0	0.14	1002	86.1	0.13	40	32
	MIN	50%	1412	121.4	0.26	1667	71.6	0.09	772	66.3	0.08	35	27
	-	30%	1026	88.1	0.14	1225	52.6	0.05	542	46.6	0.04	31	23
	STOP		400	34.3	0.02	495	21.3	0.01	191	16.4	<0.01	-	-
2300	MAX	100%	2291	196.8	0.71	2657	114.2	0.24	1314	112.9	0.23	49	41
	MED	70%	1793	154.1	0.44	2094	90.0	0.15	1010	86.8	0.14	40	32
	MIN	50%	1431	122.9	0.28	1690	72.6	0.10	780	67.0	0.08	35	27
	-	30%	1044	89.7	0.15	1248	53.6	0.05	551	47.4	0.04	31	23
	STOP		418	35.9	0.02	518	22.3	0.01	200	17.2	0.01	-	-
2400	MAX	100%	2309	198.4	0.76	2681	115.2	0.26	1321	113.5	0.25	49	41
	MED	70%	1811	155.6	0.47	2117	91.0	0.16	1018	87.4	0.15	40	32
	MIN	50%	1449	124.5	0.30	1713	73.6	0.10	789	67.8	0.09	35	27
	-	30%	1062	91.3	0.16	1270	54.6	0.06	560	48.1	0.04	31	23
	STOP		436	37.5	0.03	541	23.2	0.01	209	17.9	0.01	-	-
2500	MAX	100%	2813	241.7	1.18	3257	139.9	0.40	1621	139.3	0.39	50	42
	MED	70%	2191	188.2	0.72	2554	109.7	0.24	1239	106.5	0.23	41	33
	MIN	50%	1738	149.3	0.45	2051	88.1	0.16	951	81.7	0.13	36	28
	-	30%	1255	107.8	0.23	1498	64.3	0.08	664	57.1	0.07	32	24
	STOP		472	40.6	0.03	585	25.1	0.01	226	19.4	0.01	-	-
2600	MAX	100%	2831	243.2	1.25	3280	140.9	0.42	1629	140.0	0.41	50	41
	MED	70%	2209	189.8	0.76	2577	110.7	0.26	1248	107.2	0.24	41	33
	MIN	50%	1756	150.9	0.48	2073	89.1	0.17	960	82.5	0.14	36	28
	-	30%	1273	109.4	0.25	1520	65.3	0.09	673	57.9	0.07	32	23
	STOP		490	42.1	0.04	607	26.1	0.01	234	20.1	0.01	-	-

# TKV-13 Lx20x10

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{WA}$ [dB(A)]	Sound pressure $L_{pA}$ [dB(A)]
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]		
AC	EC												
2700	MAX	100%	2849	244.8	1.32	3304	141.9	0.44	1637	140.7	0.44	50	41
	MED	70%	2228	191.4	0.81	2600	111.7	0.28	1256	107.9	0.26	41	32
	MIN	50%	1775	152.5	0.51	2096	90.0	0.18	969	83.2	0.15	36	27
	-	30%	1291	111.0	0.27	1543	66.3	0.10	683	58.6	0.08	32	23
	STOP		509	43.7	0.04	630	27.1	0.02	243	20.9	0.01	-	-
2800	MAX	100%	3353	288.1	1.91	3882	166.8	0.64	1935	166.3	0.64	50	42
	MED	70%	2607	224.0	1.15	3038	130.5	0.39	1476	126.8	0.37	41	33
	MIN	50%	2064	177.3	0.72	2434	104.6	0.25	1130	97.1	0.22	37	28
	-	30%	1483	127.5	0.37	1771	76.1	0.13	786	67.5	0.10	32	24
	STOP		544	46.8	0.05	674	29.0	0.02	260	22.4	0.01	-	-
2900	MAX	100%	3372	289.7	2.01	3904	167.7	0.67	1944	167.0	0.67	50	42
	MED	70%	2625	225.6	1.22	3061	131.5	0.41	1485	127.6	0.39	41	33
	MIN	50%	2082	178.9	0.77	2456	105.5	0.27	1140	97.9	0.23	37	28
	-	30%	1502	129.0	0.40	1793	77.0	0.14	795	68.3	0.11	32	24
	STOP		563	48.4	0.06	697	30.0	0.02	269	23.1	0.01	-	-
3000	MAX	100%	3390	291.3	2.11	3927	168.7	0.71	1952	167.7	0.70	50	42
	MED	70%	2644	227.1	1.28	3084	132.5	0.44	1494	128.4	0.41	41	33
	MIN	50%	2100	180.5	0.81	2479	106.5	0.28	1149	98.7	0.24	37	28
	-	30%	1520	130.6	0.42	1815	78.0	0.15	805	69.1	0.12	32	24
	STOP		581	49.9	0.06	720	30.9	0.02	278	23.9	0.01	-	-
3200	MAX	100%	3427	294.4	2.31	3974	170.7	0.78	1967	169.0	0.76	50	42
	MED	70%	2680	230.3	1.42	3129	134.4	0.48	1511	129.8	0.45	41	33
	MIN	50%	2137	183.6	0.90	2524	108.4	0.31	1166	100.2	0.27	37	28
	-	30%	1557	133.8	0.48	1860	79.9	0.17	823	70.7	0.13	32	24
	STOP		618	53.1	0.08	765	32.9	0.03	295	25.4	0.02	-	-
3400	MAX	100%	3463	297.6	2.53	4022	172.8	0.85	1981	170.2	0.83	50	41
	MED	70%	2717	233.5	1.56	3176	136.4	0.53	1526	131.2	0.49	41	33
	MIN	50%	2174	186.8	1.00	2570	110.4	0.35	1183	101.7	0.30	37	28
	-	30%	1594	136.9	0.54	1905	81.9	0.19	840	72.2	0.15	32	24
	STOP		655	56.2	0.09	811	34.8	0.03	313	26.9	0.02	-	-
3600	MAX	100%	3500	300.7	2.75	4070	174.9	0.93	1994	171.4	0.89	50	41
	MED	70%	2754	236.6	1.70	3223	138.5	0.58	1542	132.5	0.53	41	32
	MIN	50%	2210	189.9	1.10	2616	112.4	0.38	1200	103.1	0.32	37	27
	-	30%	1630	140.1	0.60	1951	83.8	0.21	858	73.7	0.17	32	23
	STOP		691	59.4	0.11	856	36.8	0.04	330	28.4	0.02	-	-
3800	MAX	-	4508	387.3	4.84	5221	224.3	1.62	2597	223.2	1.61	52	42
	MED	-	3513	301.8	2.94	4096	176.0	1.00	1986	170.6	0.94	43	33
	MIN	-	2788	239.6	1.85	3290	141.3	0.64	1525	131.1	0.55	38	29
	STOP	-	763	65.5	0.14	945	40.6	0.05	364	31.3	0.03	-	-
4000	MAX	-	4544	390.4	5.20	5267	226.3	1.75	2613	224.5	1.72	52	42
	MED	-	3549	305.0	3.17	4142	177.9	1.08	2003	172.1	1.01	43	33
	MIN	-	2825	242.7	2.01	3335	143.3	0.70	1543	132.6	0.60	38	28
	STOP	-	799	68.7	0.16	990	42.5	0.06	382	32.8	0.04	-	-

## TKV-13 Lx20x10

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{wA}$ [dB(A)]	Sound pressure $L_{pA}$ [dB(A)]
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$		
AC	EC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
4200	MAX	-	4581	393.6	5.57	5315	228.3	1.87	2628	225.8	1.83	52	42
	MED	-	3586	308.1	3.41	4188	179.9	1.16	2020	173.5	1.08	43	33
	MIN	-	2862	245.9	2.17	3380	145.2	0.76	1561	134.1	0.65	38	28
	STOP	-	836	71.8	0.19	1036	44.5	0.07	399	34.3	0.04	-	-
4400	MAX	-	4618	396.8	5.95	5362	230.4	2.01	2642	227.0	1.95	52	42
	MED	-	3623	311.3	3.66	4234	181.9	1.25	2035	174.9	1.16	43	33
	MIN	-	2898	249.0	2.34	3426	147.2	0.82	1577	135.5	0.69	38	28
	STOP	-	873	75.0	0.21	1081	46.5	0.08	417	35.8	0.05	-	-
4600	MAX	-	4655	399.9	6.34	5411	232.4	2.14	2655	228.1	2.06	52	42
	MED	-	3660	314.4	3.92	4281	183.9	1.34	2050	176.2	1.23	43	33
	MIN	-	2935	252.2	2.52	3472	149.2	0.88	1594	137.0	0.74	38	28
	STOP	-	910	78.2	0.24	1127	48.4	0.09	435	37.3	0.06	-	-
4800	MAX	-	5662	486.5	9.82	6561	281.9	3.30	3259	280.0	3.25	53	43
	MED	-	4418	379.6	5.98	5154	221.4	2.04	2496	214.4	1.91	44	34
	MIN	-	3513	301.8	3.78	4146	178.1	1.32	1920	165.0	1.13	39	29
	STOP	-	981	84.3	0.29	1215	52.2	0.11	469	40.3	0.07	-	-
5000	MAX	-	5699	489.6	10.40	6608	283.9	3.49	3274	281.3	3.43	53	42
	MED	-	4455	382.8	6.35	5200	223.4	2.16	2512	215.9	2.02	44	34
	MIN	-	3549	305.0	4.03	4191	180.1	1.41	1938	166.5	1.20	39	29
	STOP	-	1018	87.4	0.33	1260	54.2	0.13	486	41.8	0.08	-	-

**Note:** The level of sound pressure  $L_{pA}$  is calculated based on the level of sound power  $L_{wA}$  emitted by the noise source at a certain distance (1 m) and depends on the installation type (free space or next to a wall).

$Q_h$  [W]: Heating capacity  $\dot{m}_w$  [kg/h]: Water flow  $\Delta p_w$  [kPa]: Pressure drop on the water side

# Technical data

## TKV-13 Lx30x10

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{WA}$ [dB(A)]	Sound pressure $L_{pA}$ [dB(A)]
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]		
AC	EC												
900	MAX	100%	917	78.8	0.06	1068	45.9	0.02	520	44.7	0.02	41	35
	MED	70%	683	58.6	0.03	805	34.6	0.01	373	32.1	0.01	32	26
	MIN	50%	531	45.7	0.02	627	27.0	0.01	290	25.0	0.01	<30	21
	-	30%	384	33.0	0.01	454	19.5	<0.01	210	18.0	<0.01	<30	<20
	STOP		172	14.8	<0.01	215	9.2	<0.01	80	6.9	<0.01	-	-
1000	MAX	100%	949	81.5	0.08	1111	47.7	0.03	531	45.6	0.02	41	35
	MED	70%	715	61.4	0.04	846	36.4	0.02	387	33.2	0.01	32	25
	MIN	50%	563	48.4	0.03	668	28.7	0.01	304	26.2	0.01	<30	21
	-	30%	416	35.8	0.02	494	21.2	0.01	225	19.3	<0.01	<30	<20
	STOP		204	17.5	<0.01	255	10.9	<0.01	95	8.2	<0.01	-	-
1100	MAX	100%	981	84.3	0.10	1154	49.6	0.03	541	46.5	0.03	41	35
	MED	70%	747	64.1	0.06	888	38.2	0.02	399	34.3	0.02	32	25
	MIN	50%	595	51.2	0.04	709	30.4	0.01	318	27.3	0.01	<30	20
	-	30%	448	38.5	0.02	534	22.9	0.01	239	20.6	0.01	<30	<20
	STOP		236	20.3	0.01	295	12.7	<0.01	110	9.4	<0.01	-	-
1200	MAX	100%	1770	152.1	0.36	2055	88.3	0.12	1014	87.1	0.12	44	38
	MED	70%	1301	111.8	0.19	1531	65.8	0.07	718	61.7	0.06	35	28
	MIN	50%	999	85.8	0.11	1176	50.5	0.04	550	47.3	0.03	<30	23
	-	30%	705	60.6	0.06	830	35.7	0.02	388	33.3	0.02	<30	<20
	STOP		279	24.0	0.01	349	15.0	<0.01	130	11.2	<0.01	-	-
1300	MAX	100%	1802	154.8	0.42	2095	90.0	0.14	1028	88.4	0.14	44	38
	MED	70%	1333	114.5	0.23	1570	67.5	0.08	733	63.0	0.07	35	28
	MIN	50%	1031	88.6	0.14	1215	52.2	0.05	566	48.6	0.04	<30	23
	-	30%	737	63.3	0.07	869	37.3	0.02	404	34.7	0.02	<30	<20
	STOP		311	26.8	0.01	389	16.7	<0.01	145	12.5	<0.01	-	-
1400	MAX	100%	1834	157.6	0.48	2136	91.8	0.16	1041	89.4	0.15	44	37
	MED	70%	1365	117.3	0.27	1611	69.2	0.09	747	64.2	0.08	35	28
	MIN	50%	1063	91.3	0.16	1255	53.9	0.06	581	49.9	0.05	<30	23
	-	30%	769	66.1	0.08	908	39.0	0.03	420	36.1	0.03	<30	<20
	STOP		343	29.5	0.02	429	18.4	0.01	160	13.8	<0.01	-	-
1500	MAX	100%	1866	160.3	0.54	2179	93.6	0.19	1052	90.4	0.17	44	37
	MED	70%	1397	120.0	0.30	1652	71.0	0.11	760	65.3	0.09	35	28
	MIN	50%	1095	94.1	0.19	1295	55.6	0.07	595	51.1	0.06	<30	23
	-	30%	801	68.8	0.10	948	40.7	0.04	435	37.4	0.03	<30	<20
	STOP		375	32.3	0.02	469	20.2	0.01	175	15.0	<0.01	-	-
1600	MAX	100%	1898	163.1	0.61	2222	95.4	0.21	1062	91.3	0.19	44	37
	MED	70%	1429	122.8	0.35	1693	72.7	0.12	773	66.4	0.10	35	28
	MIN	50%	1127	96.8	0.22	1335	57.4	0.08	609	52.3	0.06	<30	23
	-	30%	833	71.6	0.12	987	42.4	0.04	450	38.6	0.03	<30	<20
	STOP		407	35.0	0.03	509	21.9	0.01	190	16.3	0.01	-	-
1700	MAX	100%	2687	230.9	1.32	3122	134.1	0.45	1536	131.9	0.43	46	39
	MED	70%	1984	170.4	0.72	2336	100.3	0.25	1092	93.8	0.22	36	29
	MIN	50%	1530	131.5	0.43	1802	77.4	0.15	841	72.3	0.13	31	24
	-	30%	1089	93.6	0.22	1284	55.1	0.08	598	51.4	0.07	<30	21
	STOP		451	38.8	0.04	564	24.2	0.01	210	18.1	0.01	-	-

# TKV-13 Lx30x10

Housing length L [mm]	Fan speed		Heating capacity									Sound power L <sub>WA</sub>	Sound pressure L <sub>pA</sub>
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$		
AC	EC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
1800	MAX	100%	2719	233.6	1.46	3163	135.9	0.49	1549	133.1	0.47	46	39
	MED	70%	2016	173.2	0.80	2375	102.1	0.28	1106	95.1	0.24	36	29
	MIN	50%	1562	134.2	0.48	1842	79.1	0.17	856	73.6	0.14	31	24
	-	30%	1121	96.3	0.25	1323	56.8	0.09	614	52.7	0.07	<30	21
	STOP		483	41.5	0.05	604	25.9	0.02	225	19.4	0.01	-	-
1900	MAX	100%	2751	236.4	1.60	3204	137.7	0.54	1561	134.1	0.51	46	39
	MED	70%	2048	175.9	0.88	2416	103.8	0.31	1120	96.3	0.26	36	29
	MIN	50%	1594	137.0	0.54	1882	80.8	0.19	871	74.9	0.16	31	24
	-	30%	1153	99.1	0.28	1362	58.5	0.10	629	54.1	0.08	<30	20
	STOP		515	44.3	0.06	644	27.7	0.02	240	20.6	0.01	-	-
2000	MAX	100%	3540	304.2	2.81	4109	176.5	0.95	2028	174.3	0.92	47	40
	MED	70%	2602	223.6	1.52	3062	131.5	0.53	1435	123.3	0.46	38	30
	MIN	50%	1997	171.6	0.90	2351	101.0	0.31	1100	94.5	0.27	33	25
	-	30%	1409	121.1	0.45	1660	71.3	0.15	775	66.6	0.13	<30	22
	STOP		559	48.0	0.07	698	30.0	0.03	260	22.4	0.02	-	-
2100	MAX	100%	3572	306.9	3.04	4149	178.2	1.02	2043	175.5	0.99	47	40
	MED	70%	2634	226.3	1.65	3101	133.2	0.57	1451	124.6	0.50	38	30
	MIN	50%	2029	174.4	0.98	2390	102.7	0.34	1116	95.9	0.30	33	25
	-	30%	1442	123.9	0.49	1699	73.0	0.17	792	68.0	0.15	<30	21
	STOP		591	50.8	0.08	738	31.7	0.03	275	23.7	0.02	-	-
2200	MAX	100%	3604	309.7	3.27	4189	180.0	1.10	2057	176.7	1.06	47	39
	MED	70%	2666	229.1	1.79	3141	134.9	0.62	1466	125.9	0.54	38	30
	MIN	50%	2061	177.1	1.07	2430	104.4	0.37	1132	97.2	0.32	33	25
	-	30%	1474	126.6	0.55	1737	74.6	0.19	808	69.4	0.16	<30	21
	STOP		623	53.5	0.10	778	33.4	0.04	290	24.9	0.02	-	-
2300	MAX	100%	3636	312.4	3.51	4231	181.7	1.19	2069	177.8	1.14	47	39
	MED	70%	2698	231.8	1.93	3181	136.6	0.67	1480	127.2	0.58	38	30
	MIN	50%	2093	179.9	1.16	2469	106.1	0.40	1147	98.5	0.35	33	25
	-	30%	1506	129.4	0.60	1777	76.3	0.21	824	70.8	0.18	<30	21
	STOP		655	56.3	0.11	818	35.2	0.04	305	26.2	0.02	-	-
2400	MAX	100%	3668	315.2	3.76	4272	183.5	1.27	2081	178.8	1.21	47	39
	MED	70%	2730	234.6	2.08	3221	138.4	0.72	1494	128.4	0.62	38	30
	MIN	50%	2126	182.6	1.26	2509	107.8	0.44	1162	99.8	0.38	33	25
	-	30%	1538	132.1	0.66	1816	78.0	0.23	839	72.1	0.20	<30	21
	STOP		687	59.0	0.13	858	36.9	0.05	320	27.5	0.03	-	-
2500	MAX	100%	4457	383.0	5.82	5176	222.4	1.96	2550	219.1	1.90	48	40
	MED	70%	3285	282.2	3.16	3866	166.1	1.09	1809	155.5	0.96	39	30
	MIN	50%	2529	217.3	1.87	2978	127.9	0.65	1391	119.5	0.57	34	26
	-	30%	1794	154.1	0.94	2114	90.8	0.33	985	84.7	0.28	30	22
	STOP		730	62.8	0.16	913	39.2	0.06	341	29.3	0.03	-	-
2600	MAX	100%	4489	385.7	6.18	5216	224.1	2.08	2564	220.3	2.01	48	40
	MED	70%	3317	285.0	3.37	3906	167.8	1.17	1825	156.8	1.02	39	30
	MIN	50%	2561	220.0	2.01	3017	129.6	0.70	1407	120.9	0.61	34	26
	-	30%	1826	156.9	1.02	2152	92.5	0.35	1002	86.1	0.31	30	22
	STOP		762	65.5	0.18	953	40.9	0.07	355	30.5	0.04	-	-

## TKV-13 Lx30x10

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{WA}$ [dB(A)]	Sound pressure $L_{pA}$ [dB(A)]
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]		
AC	EC												
2700	MAX	100%	4521	388.5	6.54	5257	225.9	2.21	2577	221.4	2.13	48	40
	MED	70%	3349	287.7	3.59	3946	169.5	1.25	1839	158.0	1.08	39	30
	MIN	50%	2593	222.8	2.15	3057	131.3	0.75	1422	122.2	0.65	34	25
	-	30%	1858	159.6	1.10	2191	94.1	0.38	1018	87.4	0.33	30	22
	STOP			795	68.3	0.20	993	42.7	0.08	370	31.8	0.04	-
2800	MAX	100%	5310	456.3	9.41	6164	264.8	3.17	3042	261.4	3.09	49	41
	MED	70%	3903	335.4	5.09	4592	197.3	1.76	2153	184.9	1.55	39	31
	MIN	50%	2996	257.4	3.00	3527	151.5	1.04	1650	141.8	0.91	34	26
	-	30%	2114	181.7	1.49	2490	107.0	0.52	1163	99.9	0.45	31	22
	STOP			838	72.0	0.23	1048	45.0	0.09	391	33.6	0.05	-
2900	MAX	100%	5342	459.0	9.92	6203	266.5	3.34	3057	262.7	3.25	49	40
	MED	70%	3935	338.1	5.38	4632	199.0	1.86	2168	186.3	1.63	39	31
	MIN	50%	3028	260.2	3.19	3566	153.2	1.10	1666	143.2	0.96	34	26
	-	30%	2146	184.4	1.60	2529	108.6	0.56	1179	101.3	0.48	31	22
	STOP			870	74.8	0.26	1088	46.7	0.10	406	34.9	0.06	-
3000	MAX	100%	5374	461.8	10.43	6243	268.2	3.52	3071	263.9	3.41	49	40
	MED	70%	3967	340.9	5.68	4671	200.7	1.97	2183	187.6	1.72	39	31
	MIN	50%	3060	262.9	3.38	3605	154.9	1.17	1682	144.5	1.02	34	26
	-	30%	2178	187.2	1.71	2567	110.3	0.60	1196	102.7	0.52	31	22
	STOP			902	77.5	0.29	1128	48.4	0.11	421	36.1	0.06	-
3200	MAX	100%	5438	467.3	11.49	6325	271.7	3.89	3098	266.2	3.73	49	40
	MED	70%	4031	346.4	6.31	4751	204.1	2.19	2213	190.1	1.90	39	31
	MIN	50%	3124	268.4	3.79	3684	158.3	1.32	1713	147.2	1.14	34	26
	-	30%	2242	192.7	1.95	2645	113.6	0.68	1228	105.5	0.59	31	22
	STOP			966	83.0	0.36	1208	51.9	0.14	450	38.7	0.08	-
3400	MAX	100%	5502	472.8	12.59	6409	275.3	4.27	3122	268.3	4.05	49	40
	MED	70%	4095	351.9	6.97	4832	207.6	2.43	2241	192.5	2.09	39	30
	MIN	50%	3188	273.9	4.23	3764	161.7	1.47	1742	149.7	1.26	34	26
	-	30%	2306	198.2	2.21	2724	117.0	0.77	1259	108.1	0.66	31	22
	STOP			1030	88.5	0.44	1288	55.3	0.17	480	41.3	0.10	-
3600	MAX	100%	5566	478.3	13.73	6493	278.9	4.67	3145	270.2	4.38	49	40
	MED	70%	4159	357.4	7.67	4914	211.1	2.67	2268	194.9	2.28	39	30
	MIN	50%	3252	279.4	4.69	3844	165.1	1.64	1771	152.2	1.39	34	25
	-	30%	2370	203.7	2.49	2803	120.4	0.87	1289	110.8	0.74	31	22
	STOP			1094	94.0	0.53	1368	58.8	0.21	510	43.8	0.12	-
3800	MAX	-	7145	613.9	24.02	8298	356.5	8.10	4086	351.0	7.85	50	41
	MED	-	5268	452.6	13.06	6202	266.4	4.52	2901	249.3	3.96	41	31
	MIN	-	4059	348.7	7.75	4780	205.4	2.69	2232	191.8	2.34	36	26
	STOP	-	1182	101.5	0.66	1477	63.4	0.26	551	47.3	0.14	-	-
4000	MAX	-	7209	619.4	25.87	8379	360.0	8.74	4113	353.4	8.42	50	41
	MED	-	5332	458.1	14.15	6281	269.8	4.91	2931	251.8	4.28	41	31
	MIN	-	4123	354.2	8.46	4859	208.7	2.94	2263	194.5	2.55	36	26
	STOP	-	1246	107.0	0.77	1557	66.9	0.30	581	49.9	0.17	-	-

## TKV-13 Lx30x10

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{wA}$ [dB(A)]	Sound pressure $L_{pA}$ [dB(A)]
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$		
AC	EC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
4200	MAX	-	7273	624.9	27.78	8461	363.5	9.40	4139	355.6	9.00	50	41
	MED	-	5396	463.6	15.29	6361	273.3	5.31	2960	254.3	4.60	41	31
	MIN	-	4187	359.7	9.21	4938	212.1	3.20	2294	197.1	2.76	36	26
	STOP	-	1310	112.5	0.90	1637	70.3	0.35	610	52.5	0.20	-	-
4400	MAX	-	7337	630.4	29.74	8545	367.1	10.09	4163	357.7	9.57	50	40
	MED	-	5460	469.1	16.47	6442	276.8	5.73	2988	256.7	4.93	41	31
	MIN	-	4251	365.2	9.98	5018	215.6	3.48	2323	199.6	2.98	36	26
	STOP	-	1374	118.0	1.04	1717	73.8	0.41	640	55.0	0.23	-	-
4600	MAX	-	7401	635.9	31.76	8629	370.7	10.79	4186	359.6	10.16	50	40
	MED	-	5524	474.6	17.70	6524	280.3	6.17	3015	259.0	5.27	41	31
	MIN	-	4315	370.7	10.80	5098	219.0	3.77	2352	202.1	3.21	36	26
	STOP	-	1438	123.5	1.20	1797	77.2	0.47	670	57.6	0.26	-	-
4800	MAX	-	8979	771.4	48.95	10433	448.2	16.52	5128	440.6	15.97	51	41
	MED	-	6633	569.9	26.72	7812	335.6	9.26	3649	313.5	8.09	42	32
	MIN	-	5122	440.1	15.93	6034	259.2	5.53	2814	241.8	4.81	37	27
	STOP	-	1525	131.0	1.41	1906	81.9	0.55	711	61.1	0.31	-	-
5000	MAX	-	9043	776.9	51.89	10515	451.7	17.54	5154	442.9	16.86	51	41
	MED	-	6697	575.4	28.46	7891	339.0	9.88	3678	316.0	8.59	42	31
	MIN	-	5186	445.6	17.06	6113	262.6	5.93	2844	244.4	5.13	37	27
	STOP	-	1589	136.5	1.60	1986	85.3	0.63	741	63.6	0.35	-	-

**Note:** The level of sound pressure  $L_{pA}$  is calculated based on the level of sound power  $L_{wA}$  emitted by the noise source at a certain distance (1 m) and depends on the installation type (free space or next to a wall).

$Q_h$  [W]: Heating capacity  $\dot{m}_w$  [kg/h]: Water flow  $\Delta p_w$  [kPa]: Pressure drop on the water side

# Technical data

## TKV-13 Lx40x10

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{WA}$ [dB(A)]	Sound pressure $L_{pA}$ [dB(A)]
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]		
AC	EC												
900	MAX	100%	1162	99.8	0.15	1360	58.4	0.05	650	55.9	0.05	42	36
	MED	70%	874	75.1	0.08	1031	44.3	0.03	477	41.0	0.02	32	26
	MIN	50%	690	59.3	0.05	817	35.1	0.02	374	32.1	0.02	<30	21
	-	30%	513	44.1	0.03	609	26.2	0.01	275	23.6	0.01	<30	<20
	STOP		259	22.3	0.01	325	14.0	<0.01	120	10.3	<0.01	-	-
1000	MAX	100%	1205	103.5	0.19	1417	60.9	0.06	665	57.2	0.06	42	35
	MED	70%	917	78.8	0.11	1087	46.7	0.04	495	42.6	0.03	32	26
	MIN	50%	733	63.0	0.07	872	37.5	0.02	393	33.7	0.02	<30	21
	-	30%	556	47.8	0.04	663	28.5	0.01	295	25.4	0.01	<30	<20
	STOP		302	26.0	0.01	379	16.3	<0.01	140	12.0	<0.01	-	-
1100	MAX	100%	1248	107.2	0.23	1475	63.4	0.08	679	58.4	0.07	42	35
	MED	70%	960	82.5	0.14	1143	49.1	0.05	512	44.0	0.04	32	26
	MIN	50%	776	66.7	0.09	927	39.8	0.03	411	35.3	0.03	<30	21
	-	30%	599	51.5	0.05	717	30.8	0.02	315	27.0	0.01	<30	<20
	STOP		346	29.7	0.02	433	18.6	0.01	160	13.7	<0.01	-	-
1200	MAX	100%	2237	192.2	0.85	2609	112.1	0.29	1263	108.6	0.27	45	38
	MED	70%	1661	142.7	0.47	1955	84.0	0.16	915	78.6	0.14	35	28
	MIN	50%	1293	111.1	0.28	1528	65.6	0.10	706	60.6	0.08	<30	24
	-	30%	939	80.7	0.15	1113	47.8	0.05	508	43.6	0.04	<30	<20
	STOP		432	37.1	0.03	541	23.3	0.01	200	17.2	0.01	-	-
1300	MAX	100%	2280	195.9	0.99	2664	114.4	0.34	1283	110.2	0.31	45	38
	MED	70%	1704	146.4	0.55	2008	86.3	0.19	936	80.4	0.17	35	28
	MIN	50%	1337	114.9	0.34	1581	67.9	0.12	727	62.5	0.10	<30	23
	-	30%	982	84.4	0.18	1165	50.1	0.06	529	45.5	0.05	<30	<20
	STOP		475	40.8	0.04	596	25.6	0.02	220	18.9	0.01	-	-
1400	MAX	100%	2323	199.6	1.14	2719	116.8	0.39	1300	111.7	0.36	45	38
	MED	70%	1747	150.1	0.64	2063	88.6	0.22	955	82.0	0.19	35	28
	MIN	50%	1380	118.6	0.40	1634	70.2	0.14	747	64.2	0.12	<30	23
	-	30%	1025	88.1	0.22	1218	52.3	0.08	550	47.3	0.06	<30	<20
	STOP		518	44.5	0.06	650	27.9	0.02	240	20.6	0.01	-	-
1500	MAX	100%	2367	203.3	1.30	2776	119.3	0.45	1316	113.1	0.40	45	38
	MED	70%	1791	153.9	0.74	2118	91.0	0.26	973	83.6	0.22	35	28
	MIN	50%	1423	122.3	0.47	1689	72.5	0.16	767	65.9	0.14	<30	23
	-	30%	1069	91.8	0.26	1272	54.7	0.09	571	49.0	0.08	<30	<20
	STOP		562	48.3	0.07	704	30.3	0.03	260	22.3	0.02	-	-
1600	MAX	100%	2410	207.1	1.46	2834	121.8	0.51	1331	114.3	0.45	45	38
	MED	70%	1834	157.6	0.85	2174	93.4	0.30	990	85.1	0.25	35	28
	MIN	50%	1466	126.0	0.54	1744	74.9	0.19	785	67.5	0.16	<30	23
	-	30%	1112	95.5	0.31	1326	57.0	0.11	591	50.7	0.09	<30	<20
	STOP		605	52.0	0.09	758	32.6	0.04	280	24.0	0.02	-	-
1700	MAX	100%	3398	292.0	3.14	3968	170.5	1.07	1915	164.5	1.00	46	39
	MED	70%	2535	217.8	1.75	2986	128.3	0.61	1393	119.7	0.53	37	30
	MIN	50%	1983	170.4	1.07	2344	100.7	0.37	1080	92.8	0.32	32	25
	-	30%	1452	124.7	0.57	1722	74.0	0.20	783	67.3	0.17	<30	21
	STOP		691	59.4	0.13	866	37.2	0.05	319	27.4	0.03	-	-

# TKV-13 Lx40x10

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{WA}$	Sound pressure $L_{pA}$
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$		
AC	EC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
1800	MAX	100%	3442	295.7	3.47	4023	172.8	1.18	1933	166.1	1.09	46	39
	MED	70%	2578	221.5	1.95	3040	130.6	0.68	1413	121.4	0.58	37	29
	MIN	50%	2027	174.1	1.20	2398	103.0	0.42	1101	94.6	0.35	32	24
	-	30%	1495	128.5	0.65	1774	76.2	0.23	805	69.1	0.19	<30	21
	STOP		734	63.1	0.16	921	39.6	0.06	339	29.2	0.03	-	-
1900	MAX	100%	3485	299.4	3.80	4079	175.2	1.30	1950	167.6	1.19	46	39
	MED	70%	2621	225.2	2.15	3094	132.9	0.75	1432	123.1	0.64	37	29
	MIN	50%	2070	177.8	1.34	2451	105.3	0.47	1121	96.3	0.39	32	24
	-	30%	1538	132.2	0.74	1828	78.5	0.26	825	70.9	0.21	<30	21
	STOP		778	66.8	0.19	975	41.9	0.07	359	30.9	0.04	-	-
2000	MAX	100%	4474	384.4	6.68	5219	224.2	2.27	2527	217.1	2.13	48	40
	MED	70%	3322	285.4	3.68	3910	168.0	1.28	1830	157.2	1.12	38	30
	MIN	50%	2587	222.3	2.23	3055	131.3	0.78	1412	121.3	0.67	33	25
	-	30%	1878	161.4	1.18	2225	95.6	0.41	1015	87.2	0.34	<30	22
	STOP		864	74.2	0.25	1083	46.5	0.10	399	34.3	0.05	-	-
2100	MAX	100%	4517	388.1	7.23	5273	226.5	2.46	2547	218.8	2.30	48	40
	MED	70%	3365	289.1	4.01	3963	170.3	1.39	1851	159.0	1.21	38	30
	MIN	50%	2630	226.0	2.45	3108	133.5	0.86	1433	123.1	0.73	33	25
	-	30%	1921	165.1	1.31	2278	97.9	0.46	1037	89.1	0.38	<30	22
	STOP		907	77.9	0.29	1137	48.9	0.11	419	36.0	0.06	-	-
2200	MAX	100%	4560	391.8	7.79	5327	228.9	2.66	2566	220.4	2.47	48	40
	MED	70%	3408	292.9	4.35	4017	172.6	1.51	1871	160.8	1.31	38	30
	MIN	50%	2673	229.7	2.68	3161	135.8	0.94	1454	124.9	0.79	33	25
	-	30%	1964	168.8	1.45	2331	100.1	0.51	1059	91.0	0.42	<30	22
	STOP		950	81.6	0.34	1191	51.2	0.13	439	37.7	0.07	-	-
2300	MAX	100%	4603	395.5	8.38	5383	231.2	2.86	2583	222.0	2.64	48	40
	MED	70%	3452	296.6	4.71	4071	174.9	1.64	1891	162.4	1.41	38	30
	MIN	50%	2717	233.4	2.92	3215	138.1	1.02	1474	126.7	0.86	33	25
	-	30%	2008	172.5	1.59	2384	102.4	0.56	1080	92.8	0.46	<30	21
	STOP		993	85.4	0.39	1246	53.5	0.15	459	39.5	0.08	-	-
2400	MAX	100%	4647	399.2	8.98	5439	233.7	3.07	2600	223.4	2.81	48	40
	MED	70%	3495	300.3	5.08	4126	177.2	1.77	1909	164.1	1.52	38	30
	MIN	50%	2760	237.1	3.17	3269	140.4	1.11	1494	128.4	0.93	33	25
	-	30%	2051	176.2	1.75	2437	104.7	0.62	1101	94.6	0.50	<30	21
	STOP		1037	89.1	0.45	1300	55.8	0.18	479	41.2	0.10	-	-
2500	MAX	100%	5635	484.2	13.86	6577	282.6	4.72	3179	273.1	4.41	49	40
	MED	70%	4196	360.5	7.68	4941	212.3	2.66	2308	198.3	2.33	39	31
	MIN	50%	3277	281.5	4.68	3872	166.3	1.64	1786	153.5	1.39	34	26
	-	30%	2391	205.4	2.49	2834	121.8	0.88	1291	110.9	0.73	30	22
	STOP		1123	96.5	0.55	1408	60.5	0.22	519	44.6	0.12	-	-
2600	MAX	100%	5679	487.9	14.73	6632	284.9	5.02	3198	274.8	4.67	49	40
	MED	70%	4239	364.2	8.21	4994	214.6	2.85	2329	200.1	2.48	39	31
	MIN	50%	3320	285.3	5.04	3925	168.6	1.76	1807	155.3	1.49	34	26
	-	30%	2434	209.1	2.71	2887	124.0	0.95	1313	112.8	0.79	30	22
	STOP		1166	100.2	0.62	1462	62.8	0.24	539	46.3	0.13	-	-

# TKV-13 Lx40x10

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{WA}$ [dB(A)]	Sound pressure $L_{pA}$ [dB(A)]
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]		
AC	EC												
2700	MAX	100%	5722	491.6	15.63	6687	287.3	5.34	3216	276.3	4.94	49	40
	MED	70%	4282	367.9	8.75	5048	216.9	3.04	2349	201.8	2.63	39	31
	MIN	50%	3363	289.0	5.40	3978	170.9	1.89	1828	157.1	1.59	34	26
	-	30%	2477	212.8	2.93	2940	126.3	1.03	1334	114.6	0.85	30	22
	STOP		1209	103.9	0.70	1516	65.1	0.27	559	48.0	0.15	-	-
2800	MAX	100%	6710	576.6	22.42	7828	336.3	7.63	3790	325.7	7.15	49	41
	MED	70%	4983	428.1	12.36	5865	252.0	4.28	2745	235.8	3.75	40	31
	MIN	50%	3880	333.4	7.50	4583	196.9	2.61	2117	181.9	2.23	35	26
	-	30%	2817	242.0	3.95	3338	143.4	1.39	1523	130.8	1.15	31	23
	STOP		1296	111.3	0.84	1624	69.8	0.33	599	51.5	0.18	-	-
2900	MAX	100%	6754	580.3	23.64	7882	338.6	8.05	3811	327.4	7.53	49	41
	MED	70%	5026	431.8	13.09	5918	254.2	4.54	2766	237.7	3.97	40	31
	MIN	50%	3924	337.1	7.98	4635	199.1	2.78	2139	183.8	2.37	35	26
	-	30%	2860	245.8	4.24	3390	145.7	1.49	1545	132.7	1.24	31	23
	STOP		1339	115.0	0.93	1679	72.1	0.37	619	53.2	0.20	-	-
3000	MAX	100%	6797	584.0	24.89	7936	340.9	8.48	3830	329.1	7.90	49	41
	MED	70%	5069	435.6	13.85	5972	256.5	4.80	2787	239.4	4.18	40	31
	MIN	50%	3967	340.8	8.48	4688	201.4	2.96	2160	185.6	2.51	35	26
	-	30%	2903	249.5	4.54	3443	147.9	1.60	1567	134.6	1.32	31	22
	STOP		1382	118.8	1.03	1733	74.4	0.40	639	54.9	0.22	-	-
3200	MAX	100%	6883	591.4	27.47	8046	345.7	9.38	3866	332.2	8.67	49	41
	MED	70%	5156	443.0	15.41	6079	261.2	5.36	2826	242.8	4.63	40	31
	MIN	50%	4053	348.3	9.53	4795	206.0	3.33	2202	189.2	2.81	35	26
	-	30%	2990	256.9	5.18	3549	152.5	1.83	1609	138.3	1.50	31	22
	STOP		1469	126.2	1.25	1841	79.1	0.49	679	58.3	0.27	-	-
3400	MAX	100%	6970	598.9	30.16	8158	350.5	10.33	3900	335.1	9.44	49	40
	MED	70%	5242	450.4	17.06	6189	265.9	5.94	2864	246.1	5.09	40	31
	MIN	50%	4140	355.7	10.64	4903	210.6	3.73	2242	192.6	3.12	35	26
	-	30%	3076	264.3	5.88	3655	157.0	2.07	1651	141.9	1.69	31	22
	STOP		1555	133.6	1.50	1950	83.8	0.59	719	61.8	0.32	-	-
3600	MAX	100%	7056	606.3	32.96	8272	355.4	11.32	3932	337.8	10.23	49	40
	MED	70%	5329	457.9	18.80	6299	270.6	6.57	2901	249.2	5.57	40	31
	MIN	50%	4226	363.1	11.82	5011	215.3	4.16	2281	195.9	3.44	35	26
	-	30%	3163	271.8	6.62	3762	161.6	2.34	1692	145.4	1.89	31	22
	STOP		1642	141.0	1.78	2058	88.4	0.70	759	65.2	0.38	-	-
3800	MAX	-	9034	776.2	57.36	10545	453.0	19.54	5094	437.7	18.24	51	41
	MED	-	6730	578.3	31.84	7926	340.5	11.04	3702	318.1	9.63	41	32
	MIN	-	5260	452.0	19.45	6216	267.0	6.79	2866	246.3	5.77	36	27
	STOP	-	1814	155.9	2.31	2274	97.7	0.91	838	72.0	0.49	-	-
4000	MAX	-	9120	783.6	61.88	10654	457.7	21.11	5131	440.9	19.59	51	41
	MED	-	6817	585.7	34.57	8034	345.1	12.00	3742	321.5	10.42	41	31
	MIN	-	5347	459.4	21.27	6322	271.6	7.43	2908	249.9	6.29	36	27
	STOP	-	1900	163.3	2.69	2383	102.4	1.06	878	75.5	0.57	-	-

## TKV-13 Lx40x10

Housing length L [mm]	Fan speed		Heating capacity									Sound power L <sub>WA</sub>	Sound pressure L <sub>PA</sub>
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			Q <sub>h</sub>	m <sub>w</sub>	Δp <sub>w</sub>	Q <sub>h</sub>	m <sub>w</sub>	Δp <sub>w</sub>	Q <sub>h</sub>	m <sub>w</sub>	Δp <sub>w</sub>		
AC	EC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
4200	MAX	-	9207	791.0	66.53	10765	462.5	22.74	5167	443.9	20.95	51	41
	MED	-	6903	593.1	37.41	8142	349.8	13.01	3781	324.9	11.22	41	31
	MIN	-	5433	466.8	23.17	6429	276.2	8.11	2949	253.4	6.83	36	26
	STOP	-	1987	170.7	3.10	2491	107.0	1.22	918	78.9	0.66	-	-
4400	MAX	-	9293	798.5	71.33	10877	467.3	24.43	5200	446.8	22.34	51	41
	MED	-	6990	600.6	40.35	8252	354.5	14.06	3819	328.1	12.05	41	31
	MIN	-	5520	474.2	25.16	6537	280.8	8.82	2989	256.8	7.38	36	26
	STOP	-	2073	178.2	3.55	2599	111.7	1.40	958	82.3	0.76	-	-
4600	MAX	-	9380	805.9	76.27	10991	472.2	26.18	5232	449.6	23.73	51	41
	MED	-	7076	608.0	43.41	8362	359.2	15.15	3856	331.3	12.89	41	31
	MIN	-	5606	481.7	27.25	6646	285.5	9.57	3028	260.2	7.95	36	26
	STOP	-	2160	185.6	4.04	2708	116.3	1.59	998	85.8	0.86	-	-
4800	MAX	-	11357	975.8	117.11	13263	569.8	39.93	6396	549.5	37.14	52	41
	MED	-	8478	728.4	65.26	9988	429.1	22.65	4658	400.2	19.70	42	32
	MIN	-	6640	570.5	40.03	7849	337.2	13.98	3614	310.6	11.86	37	27
	STOP	-	2332	200.4	4.94	2924	125.6	1.94	1078	92.6	1.06	-	-
5000	MAX	-	11444	983.2	124.27	13373	574.5	42.43	6432	552.6	39.26	52	41
	MED	-	8564	735.8	69.60	10096	433.7	24.18	4697	403.6	20.94	42	32
	MIN	-	6727	577.9	42.94	7956	341.8	15.02	3656	314.1	12.68	37	27
	STOP	-	2419	207.8	5.55	3033	130.3	2.18	1118	96.1	1.19	-	-

**Note:** The level of sound pressure L<sub>PA</sub> is calculated based on the level of sound power L<sub>WA</sub> emitted by the noise source at a certain distance (1 m) and depends on the installation type (free space or next to a wall).

**Q<sub>h</sub> [W]:** Heating capacity **m<sub>w</sub> [kg/h]:** Water flow **Δp<sub>w</sub> [kPa]:** Pressure drop on the water side

## Other technical data for TKV-13 Lx20x10, Lx30x10, Lx40x10

Housing length [mm]	Fan designation (max. no. of fans)	Water connectors dimensions ["]	Air flow [m <sup>3</sup> /h]	Max. input power [W]	Max. input current [A]
900-1100	1 1	1/2	80	12	0.10
1200-1600	1 2	1/2	160	24	0.20
1700-1900	2 3	1/2	240	36	0.30
2000-2400	2 4	1/2	320	48	0.40
2500-2700	3 5	1/2	400	60	0.50
2800-3600	3 6	1/2	480	72	0.60
3800-4600	4 8	1/2	640	96	0.80
4800-5000	5 10	1/2	800	120	1.00

# Technical data

## TKV-13 Lx15x11

Housing length L [mm]	Fan speed	Heating capacity									Sound power	Sound pressure
		75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
		Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	L <sub>WA</sub>	L <sub>pA</sub>
AC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
900	MAX	481	41.3	0.01	558	24.0	<0.01	275	23.6	<0.01	44	38
	MED	399	34.3	0.01	466	20.0	<0.01	224	19.2	<0.01	39	33
	MIN	326	28.0	<0.01	385	16.6	<0.01	177	15.2	<0.01	<30	23
	STOP	81	7.0	<0.01	100	4.3	<0.01	39	3.3	<0.01	-	-
1000	MAX	497	42.7	0.01	580	24.9	<0.01	281	24.1	<0.01	44	38
	MED	415	35.6	0.01	487	20.9	<0.01	230	19.8	<0.01	39	33
	MIN	342	29.4	0.01	406	17.4	<0.01	185	15.9	<0.01	<30	23
	STOP	97	8.4	<0.01	120	5.2	<0.01	46	4.0	<0.01	-	-
1100	MAX	513	44.1	0.01	601	25.8	<0.01	286	24.6	<0.01	44	38
	MED	431	37.0	0.01	508	21.8	<0.01	237	20.3	<0.01	39	33
	MIN	358	30.8	0.01	426	18.3	<0.01	191	16.4	<0.01	<30	23
	STOP	113	9.7	<0.01	140	6.0	<0.01	54	4.7	<0.01	-	-
1200	MAX	929	79.8	0.05	1075	46.2	0.02	536	46.1	0.02	47	41
	MED	765	65.7	0.04	891	38.3	0.01	433	37.2	0.01	42	36
	MIN	619	53.2	0.02	731	31.4	0.01	339	29.2	0.01	32	26
	STOP	130	11.1	<0.01	161	6.9	<0.01	62	5.3	<0.01	-	-
1300	MAX	945	81.2	0.06	1095	47.1	0.02	543	46.7	0.02	47	40
	MED	781	67.1	0.04	911	39.2	0.01	441	37.9	0.01	42	35
	MIN	636	54.6	0.03	750	32.2	0.01	347	29.8	0.01	32	25
	STOP	146	12.5	<0.01	181	7.8	<0.01	70	6.0	<0.01	-	-
1400	MAX	961	82.6	0.07	1116	48.0	0.02	550	47.3	0.02	47	40
	MED	797	68.5	0.05	932	40.0	0.02	448	38.5	0.01	42	35
	MIN	652	56.0	0.03	770	33.1	0.01	355	30.5	0.01	32	25
	STOP	162	13.9	<0.01	201	8.6	<0.01	77	6.7	<0.01	-	-
1500	MAX	977	84.0	0.08	1137	48.9	0.03	556	47.8	0.02	47	40
	MED	813	69.9	0.05	953	40.9	0.02	454	39.1	0.02	42	35
	MIN	668	57.4	0.04	791	34.0	0.01	362	31.1	0.01	32	25
	STOP	178	15.3	<0.01	221	9.5	<0.01	85	7.3	<0.01	-	-
1600	MAX	994	85.4	0.09	1159	49.8	0.03	561	48.2	0.03	47	40
	MED	830	71.3	0.06	974	41.8	0.02	461	39.6	0.02	42	35
	MIN	684	58.8	0.04	811	34.9	0.01	369	31.7	0.01	32	25
	STOP	194	16.7	<0.01	241	10.3	<0.01	93	8.0	<0.01	-	-
1700	MAX	1409	121.1	0.19	1633	70.1	0.06	812	69.7	0.06	49	42
	MED	1163	100.0	0.13	1357	58.3	0.04	657	56.5	0.04	44	37
	MIN	945	81.2	0.08	1116	47.9	0.03	517	44.4	0.03	34	27
	STOP	211	18.1	<0.01	261	11.2	<0.01	101	8.7	<0.01	-	-
1800	MAX	1426	122.5	0.21	1653	71.0	0.07	818	70.3	0.07	49	41
	MED	1180	101.4	0.14	1377	59.2	0.05	665	57.1	0.04	44	37
	MIN	961	82.6	0.09	1136	48.8	0.03	525	45.1	0.03	34	26
	STOP	227	19.5	0.01	281	12.1	<0.01	108	9.3	<0.01	-	-
1900	MAX	1442	123.9	0.22	1674	71.9	0.08	825	70.9	0.07	49	41
	MED	1196	102.7	0.15	1398	60.0	0.05	672	57.7	0.05	44	36
	MIN	978	84.0	0.10	1156	49.7	0.04	532	45.7	0.03	34	26
	STOP	243	20.9	0.01	301	12.9	<0.01	116	10.0	<0.01	-	-
2000	MAX	1858	159.6	0.40	2150	92.4	0.13	1072	92.1	0.13	50	42
	MED	1530	131.4	0.27	1783	76.6	0.09	866	74.4	0.09	45	38
	MIN	1239	106.4	0.18	1461	62.8	0.06	679	58.3	0.05	35	27
	STOP	259	22.3	0.01	321	13.8	0.00	124	10.6	0.00	-	-
2100	MAX	1874	161.0	0.43	2170	93.2	0.14	1080	92.8	0.14	50	42
	MED	1546	132.8	0.29	1803	77.4	0.10	874	75.1	0.09	45	37
	MIN	1255	107.8	0.19	1481	63.6	0.07	687	59.0	0.06	35	27
	STOP	275	23.7	0.01	341	14.7	<0.01	132	11.3	<0.01	-	-

# TKV-13 Lx15x11

Housing length L [mm]	Fan speed	Heating capacity									Sound power	Sound pressure
		75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
		Q <sub>h</sub>	m <sub>w</sub>	Δp <sub>w</sub>	Q <sub>h</sub>	m <sub>w</sub>	Δp <sub>w</sub>	Q <sub>h</sub>	m <sub>w</sub>	Δp <sub>w</sub>	L <sub>WA</sub>	L <sub>pA</sub>
AC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
2200	MAX	1890	162.4	0.46	2191	94.1	0.15	1087	93.4	0.15	50	42
	MED	1562	134.2	0.31	1823	78.3	0.11	882	75.7	0.10	45	37
	MIN	1271	109.2	0.21	1501	64.5	0.07	694	59.7	0.06	35	27
	STOP	292	25.1	0.01	361	15.5	<0.01	139	12.0	<0.01	-	-
2300	MAX	1906	163.8	0.49	2211	95.0	0.17	1093	94.0	0.16	50	42
	MED	1578	135.6	0.34	1843	79.2	0.12	889	76.4	0.11	45	37
	MIN	1287	110.6	0.22	1521	65.3	0.08	702	60.3	0.07	35	27
	STOP	308	26.4	0.01	381	16.4	<0.01	147	12.6	<0.01	-	-
2400	MAX	1922	165.2	0.53	2232	95.9	0.18	1100	94.5	0.17	50	42
	MED	1594	137.0	0.36	1864	80.1	0.12	896	77.0	0.11	45	37
	MIN	1304	112.0	0.24	1541	66.2	0.08	709	61.0	0.07	35	27
	STOP	324	27.8	0.01	401	17.2	0.01	155	13.3	<0.01	-	-
2500	MAX	2338	200.9	0.82	2708	116.3	0.27	1348	115.8	0.27	51	43
	MED	1928	165.7	0.55	2248	96.6	0.19	1091	93.7	0.18	46	38
	MIN	1565	134.4	0.37	1846	79.3	0.13	856	73.6	0.11	36	28
	STOP	340	29.2	0.02	421	18.1	0.01	163	14.0	<0.01	-	-
2600	MAX	2354	202.3	0.87	2728	117.2	0.29	1355	116.4	0.29	51	43
	MED	1944	167.1	0.59	2268	97.4	0.20	1098	94.4	0.19	46	38
	MIN	1581	135.8	0.39	1866	80.2	0.14	864	74.2	0.12	36	28
	STOP	356	30.6	0.02	441	19.0	0.01	170	14.6	<0.01	-	-
2700	MAX	2371	203.7	0.92	2749	118.1	0.31	1362	117.0	0.30	51	43
	MED	1961	168.5	0.63	2288	98.3	0.21	1106	95.0	0.20	46	38
	MIN	1597	137.2	0.42	1886	81.0	0.14	872	74.9	0.12	36	28
	STOP	373	32.0	0.02	462	19.8	0.01	178	15.3	0.01	-	-
2800	MAX	2786	239.4	1.32	3225	138.6	0.44	1608	138.2	0.44	52	43
	MED	2294	197.1	0.89	2674	114.9	0.30	1299	111.6	0.29	47	38
	MIN	1858	159.6	0.59	2192	94.2	0.20	1018	87.4	0.18	37	28
	STOP	389	33.4	0.03	482	20.7	0.01	186	16.0	0.01	-	-
2900	MAX	2803	240.8	1.39	3245	139.4	0.46	1616	138.8	0.46	52	43
	MED	2311	198.5	0.94	2694	115.7	0.32	1307	112.3	0.30	47	38
	MIN	1874	161.0	0.62	2211	95.0	0.22	1026	88.1	0.19	37	28
	STOP	405	34.8	0.03	502	21.6	0.01	194	16.6	0.01	-	-
3000	MAX	2819	242.2	1.46	3266	140.3	0.49	1623	139.5	0.48	52	43
	MED	2327	199.9	0.99	2714	116.6	0.34	1315	113.0	0.32	47	38
	MIN	1890	162.4	0.66	2231	95.8	0.23	1034	88.8	0.20	37	28
	STOP	421	36.2	0.03	522	22.4	0.01	201	17.3	0.01	-	-
3200	MAX	2851	245.0	1.60	3307	142.1	0.54	1637	140.7	0.53	52	43
	MED	2359	202.7	1.10	2754	118.3	0.37	1330	114.2	0.35	47	38
	MIN	1923	165.2	0.73	2271	97.6	0.25	1049	90.2	0.22	37	28
	STOP	454	39.0	0.04	562	24.1	0.02	217	18.6	0.01	-	-
3400	MAX	2884	247.8	1.75	3349	143.9	0.59	1650	141.7	0.57	52	43
	MED	2392	205.5	1.21	2795	120.1	0.41	1343	115.4	0.38	47	38
	MIN	1955	168.0	0.81	2311	99.3	0.28	1064	91.4	0.24	37	28
	STOP	486	41.8	0.05	602	25.9	0.02	232	20.0	0.01	-	-
3600	MAX	2916	250.5	1.91	3391	145.7	0.65	1662	142.8	0.62	52	43
	MED	2424	208.3	1.32	2837	121.9	0.45	1357	116.6	0.41	47	38
	MIN	1988	170.8	0.89	2352	101.0	0.31	1079	92.7	0.26	37	28
	STOP	518	44.5	0.06	642	27.6	0.02	248	21.3	0.01	-	-
3800	MAX	3748	322.0	3.34	4341	186.5	1.12	2160	185.5	1.11	53	44
	MED	3091	265.6	2.28	3605	154.9	0.77	1748	150.2	0.73	48	39
	MIN	2510	215.6	1.50	2961	127.2	0.52	1373	118.0	0.45	38	29
	STOP	551	47.3	0.07	682	29.3	0.03	263	22.6	0.02	-	-

## TKV-13 Lx15x11

Housing length L [mm]	Fan speed	Heating capacity									Sound power	Sound pressure
		75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
		Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	L <sub>WA</sub>	L <sub>PA</sub>
AC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
4000	MAX	3780	324.8	3.60	4381	188.2	1.21	2174	186.8	1.19	53	44
	MED	3124	268.4	2.46	3645	156.6	0.84	1763	151.5	0.78	48	39
	MIN	2542	218.4	1.63	3001	128.9	0.57	1389	119.3	0.49	38	29
	STOP	583	50.1	0.09	722	31.0	0.03	279	23.9	0.02	-	-
4200	MAX	3812	327.6	3.86	4423	190.0	1.30	2187	187.9	1.27	53	43
	MED	3156	271.2	2.64	3686	158.4	0.90	1777	152.7	0.84	48	38
	MIN	2575	221.2	1.76	3041	130.7	0.61	1404	120.6	0.52	38	28
	STOP	616	52.9	0.10	763	32.8	0.04	294	25.3	0.02	-	-
4400	MAX	3845	330.3	4.13	4465	191.8	1.39	2200	189.0	1.35	53	43
	MED	3189	274.0	2.84	3727	160.1	0.97	1791	153.9	0.90	48	38
	MIN	2607	224.0	1.90	3082	132.4	0.66	1419	121.9	0.56	38	28
	STOP	648	55.7	0.12	803	34.5	0.04	310	26.6	0.03	-	-
4600	MAX	3877	333.1	4.40	4507	193.6	1.49	2212	190.0	1.43	53	43
	MED	3221	276.8	3.04	3768	161.9	1.04	1805	155.1	0.95	48	38
	MIN	2639	226.8	2.04	3123	134.1	0.71	1434	123.2	0.60	38	28
	STOP	680	58.5	0.14	843	36.2	0.05	325	27.9	0.03	-	-
4800	MAX	4709	404.6	6.79	5456	234.4	2.28	2710	232.9	2.25	54	44
	MED	3889	334.1	4.63	4536	194.9	1.58	2196	188.7	1.48	49	39
	MIN	3162	271.6	3.06	3732	160.3	1.07	1728	148.5	0.92	39	29
	STOP	713	61.2	0.16	883	37.9	0.06	341	29.3	0.04	-	-
5000	MAX	4741	407.4	7.20	5497	236.2	2.42	2724	234.0	2.38	54	44
	MED	3921	336.9	4.92	4577	196.6	1.68	2211	190.0	1.56	49	39
	MIN	3194	274.4	3.27	3772	162.0	1.14	1744	149.8	0.97	39	29
	STOP	745	64.0	0.18	923	39.7	0.07	356	30.6	0.04	-	-

**Note:** The level of sound pressure L<sub>PA</sub> is calculated based on the level of sound power L<sub>WA</sub> emitted by the noise source at a certain distance (1 m) and depends on the installation type (free space or next to a wall).

Q<sub>h</sub> [W]: Heating capacity  $\dot{m}_w$  [kg/h]: Water flow  $\Delta p_w$  [kPa]: Pressure drop on the water side

## Other technical data for TKV-13 Lx15x11

Housing length [mm]	Fan designation (max. no. of fans)	Water connectors dimensions ["]	Air flow [m <sup>3</sup> /h]	Max. input power [W]	Max. input current [A]
900-1100	1 1	1/2	80	5	0.04
1200-1600	1 2	1/2	160	9	0.08
1700-1900	2 3	1/2	240	14	0.12
2000-2400	2 4	1/2	320	18	0.16
2500-2700	3 5	1/2	400	23	0.20
2800-3600	3 6	1/2	480	27	0.24
3800-4600	4 8	1/2	640	36	0.32
4800-5000	5 10	1/2	800	45	0.40

# Technical data

## TKV-13 Lx20x14

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{WA}$ [dB(A)]	Sound pressure $L_{pA}$ [dB(A)]
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]		
AC	EC												
900	MAX	100%	807	69.4	0.05	947	40.7	0.02	450	38.6	0.01	42	36
	MED	70%	602	51.7	0.03	699	30.0	0.01	344	29.5	0.01	33	27
	MIN	50%	465	40.0	0.02	549	23.6	0.01	254	21.8	<0.01	<30	22
	-	30%	329	28.3	0.01	395	17.0	<0.01	171	14.7	<0.01	<30	<20
	STOP		126	10.8	<0.01	157	6.7	<0.01	60	5.2	<0.01	-	-
1000	MAX	100%	829	71.2	0.06	976	41.9	0.02	457	39.3	0.02	42	36
	MED	70%	623	53.6	0.03	727	31.3	0.01	352	30.2	0.01	33	27
	MIN	50%	487	41.8	0.02	577	24.8	0.01	263	22.6	0.01	<30	22
	-	30%	351	30.1	0.01	422	18.1	<0.01	182	15.6	<0.01	<30	<20
	STOP		148	12.7	<0.01	184	7.9	<0.01	70	6.0	<0.01	-	-
1100	MAX	100%	851	73.1	0.07	1006	43.2	0.03	463	39.8	0.02	42	36
	MED	70%	645	55.4	0.04	756	32.5	0.01	359	30.8	0.01	33	27
	MIN	50%	508	43.7	0.03	605	26.0	0.01	272	23.4	0.01	<30	22
	-	30%	372	32.0	0.01	449	19.3	0.01	192	16.5	<0.01	<30	<20
	STOP		170	14.6	<0.01	211	9.0	<0.01	81	6.9	<0.01	-	-
1200	MAX	100%	1571	135.0	0.28	1837	78.9	0.10	882	75.8	0.09	45	39
	MED	70%	1160	99.6	0.15	1343	57.7	0.05	669	57.5	0.05	36	30
	MIN	50%	887	76.2	0.09	1045	44.9	0.03	487	41.9	0.03	31	25
	-	30%	615	52.8	0.04	737	31.7	0.02	322	27.7	0.01	<30	21
	STOP		209	18.0	0.01	259	11.1	<0.01	99	8.5	<0.01	-	-
1300	MAX	100%	1593	136.9	0.33	1865	80.1	0.11	891	76.6	0.10	45	39
	MED	70%	1181	101.5	0.18	1370	58.9	0.06	679	58.3	0.06	36	30
	MIN	50%	908	78.0	0.11	1071	46.0	0.04	498	42.8	0.03	31	25
	-	30%	636	54.7	0.05	763	32.8	0.02	333	28.6	0.01	<30	21
	STOP		231	19.8	0.01	286	12.3	<0.01	110	9.4	<0.01	-	-
1400	MAX	100%	1615	138.8	0.37	1893	81.3	0.13	900	77.3	0.12	45	39
	MED	70%	1203	103.4	0.21	1398	60.0	0.07	688	59.1	0.07	36	29
	MIN	50%	930	79.9	0.12	1098	47.2	0.04	508	43.6	0.04	31	25
	-	30%	658	56.5	0.06	790	33.9	0.02	343	29.5	0.02	<30	21
	STOP		252	21.7	0.01	313	13.5	0.00	120	10.3	0.00	-	-
1500	MAX	100%	1637	140.6	0.42	1922	82.6	0.14	907	77.9	0.13	45	39
	MED	70%	1225	105.2	0.23	1426	61.3	0.08	696	59.8	0.08	36	29
	MIN	50%	952	81.8	0.14	1126	48.4	0.05	517	44.4	0.04	31	24
	-	30%	680	58.4	0.07	817	35.1	0.03	353	30.4	0.02	<30	20
	STOP		274	23.6	0.01	340	14.6	<0.01	130	11.2	<0.01	-	-
1600	MAX	100%	1658	142.5	0.47	1952	83.9	0.16	914	78.5	0.14	45	38
	MED	70%	1247	107.1	0.26	1455	62.5	0.09	703	60.4	0.08	36	29
	MIN	50%	973	83.6	0.16	1154	49.6	0.06	526	45.2	0.05	31	24
	-	30%	702	60.3	0.08	844	36.3	0.03	363	31.2	0.02	<30	20
	STOP		296	25.4	0.01	367	15.8	0.01	141	12.1	<0.01	-	-
1700	MAX	100%	2379	204.4	1.04	2783	119.6	0.36	1333	114.5	0.33	47	40
	MED	70%	1761	151.3	0.57	2041	87.7	0.19	1013	87.1	0.19	38	31
	MIN	50%	1352	116.1	0.34	1593	68.5	0.12	741	63.7	0.10	33	26
	-	30%	944	81.1	0.16	1132	48.6	0.06	493	42.4	0.04	<30	22
	STOP		335	28.8	0.02	416	17.9	0.01	159	13.7	<0.01	-	-

## TKV-13 Lx20x14

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{WA}$ [dB(A)]	Sound pressure $L_{pA}$ [dB(A)]
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]		
AC	EC												
1800	MAX	100%	2401	206.3	1.14	2811	120.8	0.39	1341	115.3	0.35	47	40
	MED	70%	1783	153.2	0.63	2069	88.9	0.21	1023	87.9	0.21	38	31
	MIN	50%	1373	118.0	0.37	1620	69.6	0.13	751	64.6	0.11	33	26
	-	30%	965	83.0	0.18	1158	49.8	0.07	504	43.3	0.05	<30	22
	STOP		357	30.7	0.03	443	19.0	0.01	169	14.6	0.01	-	-
1900	MAX	100%	2422	208.1	1.24	2840	122.0	0.42	1349	115.9	0.38	47	40
	MED	70%	1805	155.1	0.69	2097	90.1	0.23	1031	88.6	0.22	38	31
	MIN	50%	1395	119.9	0.41	1648	70.8	0.14	761	65.4	0.12	33	26
	-	30%	987	84.8	0.21	1185	50.9	0.07	514	44.2	0.06	<30	22
	STOP		378	32.5	0.03	470	20.2	0.01	180	15.5	0.01	-	-
2000	MAX	100%	3143	270.0	2.22	3674	157.9	0.76	1764	151.6	0.70	48	41
	MED	70%	2319	199.3	1.21	2686	115.4	0.40	1337	114.9	0.40	39	32
	MIN	50%	1773	152.4	0.71	2089	89.8	0.24	974	83.7	0.21	34	27
	-	30%	1229	105.6	0.34	1474	63.3	0.12	644	55.3	0.09	30	23
	STOP		418	35.9	0.04	519	22.3	0.02	198	17.1	0.01	-	-
2100	MAX	100%	3165	271.9	2.38	3702	159.0	0.82	1774	152.4	0.75	48	41
	MED	70%	2341	201.1	1.30	2713	116.5	0.44	1348	115.8	0.43	39	32
	MIN	50%	1795	154.2	0.77	2116	90.9	0.27	985	84.6	0.23	34	27
	-	30%	1251	107.5	0.37	1500	64.4	0.13	654	56.2	0.10	30	23
	STOP		439	37.8	0.05	546	23.4	0.02	209	17.9	0.01	-	-
2200	MAX	100%	3186	273.8	2.56	3730	160.2	0.88	1783	153.2	0.80	48	41
	MED	70%	2363	203.0	1.41	2740	117.7	0.47	1357	116.6	0.46	39	31
	MIN	50%	1817	156.1	0.83	2142	92.0	0.29	995	85.5	0.25	34	27
	-	30%	1273	109.4	0.41	1527	65.6	0.15	665	57.1	0.11	30	23
	STOP		461	39.6	0.05	573	24.6	0.02	219	18.8	0.01	-	-
2300	MAX	100%	3208	275.6	2.73	3758	161.4	0.94	1791	153.9	0.85	48	41
	MED	70%	2385	204.9	1.51	2767	118.9	0.51	1366	117.4	0.50	39	31
	MIN	50%	1838	158.0	0.90	2170	93.2	0.31	1005	86.4	0.27	34	26
	-	30%	1294	111.2	0.44	1553	66.7	0.16	676	58.0	0.12	30	22
	STOP		483	41.5	0.06	599	25.8	0.02	229	19.7	0.01	-	-
2400	MAX	100%	3230	277.5	2.91	3787	162.7	1.00	1799	154.6	0.90	48	40
	MED	70%	2406	206.7	1.62	2795	120.1	0.55	1375	118.1	0.53	39	31
	MIN	50%	1860	159.8	0.97	2197	94.4	0.34	1015	87.2	0.29	34	26
	-	30%	1316	113.1	0.48	1580	67.9	0.17	686	58.9	0.13	30	22
	STOP		505	43.4	0.07	626	26.9	0.03	240	20.6	0.02	-	-
2500	MAX	100%	3950	339.4	4.57	4620	198.5	1.56	2215	190.3	1.44	49	41
	MED	70%	2921	251.0	2.50	3384	145.4	0.84	1682	144.5	0.83	40	32
	MIN	50%	2238	192.3	1.47	2638	113.3	0.51	1228	105.6	0.44	35	27
	-	30%	1558	133.9	0.71	1868	80.3	0.26	815	70.1	0.19	31	23
	STOP		544	46.7	0.09	675	29.0	0.03	258	22.2	0.02	-	-
2600	MAX	100%	3972	341.3	4.83	4648	199.7	1.66	2224	191.1	1.52	49	41
	MED	70%	2943	252.8	2.65	3411	146.5	0.89	1692	145.4	0.88	40	32
	MIN	50%	2260	194.2	1.57	2665	114.5	0.54	1239	106.5	0.47	35	27
	-	30%	1580	135.8	0.77	1895	81.4	0.28	826	71.0	0.21	31	23
	STOP		566	48.6	0.10	702	30.2	0.04	269	23.1	0.02	-	-

# TKV-13 Lx20x14

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{WA}$	Sound pressure $L_{pA}$
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$		
AC	EC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
2700	MAX	100%	3994	343.1	5.11	4676	200.9	1.75	2233	191.9	1.60	49	41
	MED	70%	2964	254.7	2.81	3438	147.7	0.95	1701	146.2	0.93	40	32
	MIN	50%	2282	196.0	1.67	2692	115.6	0.58	1249	107.3	0.50	35	27
	-	30%	1602	137.6	0.82	1922	82.6	0.30	837	71.9	0.22	31	23
	STOP		587	50.5	0.11	729	31.3	0.04	279	24.0	0.02	-	-
2800	MAX	100%	4714	405.1	7.42	5512	236.8	2.53	2647	227.4	2.34	50	42
	MED	70%	3479	298.9	4.04	4029	173.1	1.35	2006	172.4	1.34	41	33
	MIN	50%	2660	228.5	2.36	3134	134.6	0.82	1461	125.6	0.71	36	28
	-	30%	1844	158.4	1.13	2210	95.0	0.41	965	82.9	0.31	32	24
	STOP		627	53.8	0.13	778	33.4	0.05	298	25.6	0.03	-	-
2900	MAX	100%	4736	406.9	7.79	5539	238.0	2.66	2656	228.2	2.45	50	42
	MED	70%	3501	300.8	4.26	4055	174.2	1.43	2016	173.3	1.41	41	32
	MIN	50%	2681	230.4	2.50	3160	135.8	0.87	1472	126.5	0.75	36	28
	-	30%	1866	160.3	1.21	2237	96.1	0.43	976	83.9	0.33	32	24
	STOP		648	55.7	0.15	805	34.6	0.06	308	26.5	0.03	-	-
3000	MAX	100%	4758	408.8	8.17	5566	239.1	2.80	2666	229.0	2.57	50	42
	MED	70%	3522	302.6	4.48	4082	175.4	1.50	2026	174.1	1.48	41	32
	MIN	50%	2703	232.3	2.64	3187	136.9	0.92	1483	127.4	0.79	36	27
	-	30%	1887	162.2	1.29	2263	97.2	0.46	987	84.8	0.35	32	23
	STOP		670	57.6	0.16	832	35.7	0.06	318	27.4	0.04	-	-
3200	MAX	100%	4801	412.5	8.95	5623	241.5	3.07	2683	230.5	2.80	50	41
	MED	70%	3566	306.4	4.94	4137	177.7	1.66	2045	175.7	1.62	41	32
	MIN	50%	2747	236.0	2.93	3241	139.2	1.02	1503	129.1	0.88	36	27
	-	30%	1931	165.9	1.45	2317	99.5	0.52	1008	86.6	0.39	32	23
	STOP		714	61.3	0.20	886	38.1	0.08	339	29.1	0.04	-	-
3400	MAX	100%	4845	416.3	9.76	5680	244.0	3.35	2699	231.9	3.03	50	41
	MED	70%	3609	310.1	5.42	4193	180.1	1.83	2063	177.2	1.77	41	32
	MIN	50%	2790	239.7	3.24	3295	141.6	1.13	1523	130.8	0.96	36	27
	-	30%	1974	169.6	1.62	2370	101.8	0.58	1029	88.4	0.44	32	23
	STOP		757	65.0	0.24	940	40.4	0.09	360	30.9	0.05	-	-
3600	MAX	100%	4888	420.0	10.59	5738	246.5	3.65	2713	233.1	3.26	50	41
	MED	70%	3653	313.8	5.91	4250	182.6	2.00	2079	178.6	1.92	41	32
	MIN	50%	2834	243.5	3.56	3350	143.9	1.24	1542	132.5	1.05	36	27
	-	30%	2018	173.4	1.80	2424	104.2	0.65	1049	90.2	0.49	32	23
	STOP		800	68.8	0.28	994	42.7	0.11	380	32.7	0.06	-	-
3800	MAX	-	6329	543.8	18.85	7403	318.1	6.45	3548	304.8	5.92	51	42
	MED	-	4682	402.3	10.31	5425	233.1	3.46	2695	231.6	3.42	42	33
	MIN	-	3590	308.4	6.06	4231	181.8	2.11	1970	169.2	1.83	37	28
	STOP	-	879	75.5	0.36	1091	46.9	0.14	418	35.9	0.08	-	-
4000	MAX	-	6373	547.5	20.22	7459	320.4	6.92	3566	306.4	6.33	51	42
	MED	-	4726	406.0	11.12	5480	235.4	3.74	2715	233.2	3.67	42	33
	MIN	-	3633	312.2	6.57	4285	184.1	2.29	1990	171.0	1.97	37	28
	STOP	-	922	79.3	0.42	1145	49.2	0.16	438	37.7	0.10	-	-

## TKV-13 Lx20x14

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{WA}$	Sound pressure $L_{pA}$
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$		
AC	EC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
4200	MAX	-	6416	551.3	21.62	7516	322.9	7.42	3583	307.8	6.74	51	42
	MED	-	4769	409.8	11.94	5535	237.8	4.02	2733	234.8	3.92	42	33
	MIN	-	3677	315.9	7.10	4339	186.4	2.47	2011	172.7	2.12	37	28
	STOP	-	966	83.0	0.49	1199	51.5	0.19	459	39.4	0.11	-	-
4400	MAX	-	6460	555.0	23.05	7573	325.3	7.92	3598	309.2	7.15	51	42
	MED	-	4812	413.5	12.80	5591	240.2	4.32	2750	236.3	4.18	42	32
	MIN	-	3720	319.6	7.65	4394	188.7	2.67	2030	174.4	2.28	37	28
	STOP	-	1009	86.7	0.56	1253	53.8	0.22	479	41.2	0.13	-	-
4600	MAX	-	6503	558.7	24.52	7631	327.8	8.44	3613	310.4	7.57	51	42
	MED	-	4856	417.2	13.67	5647	242.6	4.62	2767	237.7	4.44	42	32
	MIN	-	3764	323.4	8.21	4448	191.1	2.87	2049	176.1	2.43	37	27
	STOP	-	1053	90.5	0.64	1307	56.1	0.25	500	43.0	0.15	-	-
4800	MAX	-	7944	682.6	38.32	9296	399.4	13.12	4449	382.2	12.02	52	42
	MED	-	5885	505.7	21.03	6822	293.1	7.06	3384	290.7	6.95	43	33
	MIN	-	4520	388.3	12.40	5329	228.9	4.31	2478	212.9	3.73	38	28
	STOP	-	1131	97.2	0.78	1404	60.3	0.30	537	46.2	0.18	-	-
5000	MAX	-	7988	686.3	40.48	9352	401.8	13.87	4466	383.7	12.66	52	42
	MED	-	5929	509.4	22.30	6877	295.4	7.50	3403	292.3	7.35	43	33
	MIN	-	4563	392.1	13.21	5383	231.3	4.60	2498	214.6	3.96	38	28
	STOP	-	1175	100.9	0.88	1458	62.6	0.34	558	48.0	0.20	-	-

**Note:** The level of sound pressure  $L_{pA}$  is calculated based on the level of sound power  $L_{WA}$  emitted by the noise source at a certain distance (1 m) and depends on the installation type (free space or next to a wall).

$Q_h$  [W]: Heating capacity  $\dot{m}_w$  [kg/h]: Water flow  $\Delta p_w$  [kPa]: Pressure drop on the water side

# Technical data

## TKV-13 Lx30x14

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{WA}$ [dB(A)]	Sound pressure $L_{pA}$ [dB(A)]
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]		
AC	EC												
900	MAX	100%	1066	91.6	0.04	1246	53.5	0.01	599	51.5	0.01	43	37
	MED	70%	791	68.0	0.02	931	40.0	0.01	436	37.5	0.01	33	27
	MIN	50%	616	52.9	0.01	732	31.5	<0.01	329	28.3	<0.01	<30	22
	-	30%	446	38.3	0.01	536	23.0	<0.01	232	19.9	<0.01	<30	<20
	STOP		204	17.5	<0.01	256	11.0	<0.01	94	8.1	<0.01	-	-
1000	MAX	100%	1104	94.8	0.05	1297	55.7	0.02	612	52.6	0.01	43	37
	MED	70%	829	71.2	0.03	980	42.1	0.01	451	38.8	0.01	33	27
	MIN	50%	654	56.2	0.02	780	33.5	0.01	346	29.8	<0.01	<30	22
	-	30%	484	41.6	0.01	584	25.1	<0.01	250	21.5	<0.01	<30	<20
	STOP		242	20.8	<0.01	303	13.0	<0.01	112	9.6	<0.01	-	-
1100	MAX	100%	1142	98.1	0.06	1348	57.9	0.02	624	53.6	0.02	43	37
	MED	70%	867	74.5	0.03	1030	44.3	0.01	466	40.0	0.01	33	27
	MIN	50%	692	59.4	0.02	829	35.6	0.01	362	31.1	0.01	<30	22
	-	30%	522	44.9	0.01	632	27.1	<0.01	267	22.9	<0.01	<30	<20
	STOP		280	24.0	<0.01	351	15.1	<0.01	129	11.1	<0.01	-	-
1200	MAX	100%	2056	176.6	0.20	2394	102.9	0.07	1166	100.2	0.07	46	40
	MED	70%	1506	129.4	0.11	1767	75.9	0.04	837	71.9	0.03	36	30
	MIN	50%	1155	99.2	0.06	1370	58.9	0.02	623	53.5	0.02	31	25
	-	30%	816	70.1	0.03	979	42.1	0.01	427	36.7	0.01	<30	20
	STOP		331	28.5	0.01	416	17.9	<0.01	153	13.1	<0.01	-	-
1300	MAX	100%	2094	179.9	0.24	2442	104.9	0.08	1183	101.6	0.08	46	40
	MED	70%	1544	132.7	0.13	1814	77.9	0.04	855	73.5	0.04	36	30
	MIN	50%	1193	102.5	0.08	1417	60.9	0.03	641	55.1	0.02	31	24
	-	30%	854	73.4	0.04	1026	44.1	0.01	446	38.3	0.01	<30	20
	STOP		369	31.7	0.01	463	19.9	<0.01	170	14.6	<0.01	-	-
1400	MAX	100%	2132	183.2	0.27	2491	107.0	0.09	1198	102.9	0.09	46	40
	MED	70%	1582	135.9	0.15	1862	80.0	0.05	872	74.9	0.05	36	29
	MIN	50%	1231	105.8	0.09	1464	62.9	0.03	659	56.6	0.03	31	24
	-	30%	892	76.7	0.05	1073	46.1	0.02	464	39.9	0.01	<30	20
	STOP		407	35.0	0.01	511	22.0	<0.01	188	16.2	<0.01	-	-
1500	MAX	100%	2170	186.4	0.31	2542	109.2	0.11	1211	104.1	0.10	46	39
	MED	70%	1620	139.2	0.17	1911	82.1	0.06	887	76.2	0.05	36	29
	MIN	50%	1269	109.1	0.11	1512	65.0	0.04	676	58.1	0.03	31	24
	-	30%	930	80.0	0.06	1120	48.1	0.02	482	41.4	0.02	<30	20
	STOP		445	38.3	0.01	559	24.0	0.01	206	17.7	<0.01	-	-
1600	MAX	100%	2208	189.7	0.35	2593	111.4	0.12	1223	105.1	0.11	46	39
	MED	70%	1658	142.5	0.20	1960	84.2	0.07	902	77.5	0.06	36	29
	MIN	50%	1307	112.3	0.12	1560	67.0	0.04	692	59.5	0.03	31	24
	-	30%	969	83.2	0.07	1167	50.2	0.02	499	42.9	0.02	<30	<20
	STOP		483	41.5	0.02	606	26.1	0.01	223	19.2	<0.01	-	-
1700	MAX	100%	3121	268.2	0.75	3639	156.3	0.25	1766	151.8	0.24	48	41
	MED	70%	2297	197.4	0.41	2697	115.9	0.14	1274	109.5	0.12	38	31
	MIN	50%	1771	152.1	0.24	2102	90.3	0.08	953	81.9	0.07	33	26
	-	30%	1263	108.5	0.12	1515	65.1	0.04	659	56.6	0.03	<30	22
	STOP		535	46.0	0.02	671	28.8	0.01	247	21.2	<0.01	-	-

# TKV-13 Lx30x14

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{WA}$ [dB(A)]	Sound pressure $L_{pA}$ [dB(A)]
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]	$Q_h$ [W]	$\dot{m}_w$ [kg/h]	$\Delta p_w$ [kPa]		
AC	EC												
1800	MAX	100%	3159	271.5	0.82	3688	158.4	0.28	1782	153.1	0.26	48	41
	MED	70%	2335	200.6	0.45	2745	117.9	0.16	1291	110.9	0.14	38	31
	MIN	50%	1809	155.4	0.27	2149	92.3	0.10	971	83.4	0.08	33	25
	-	30%	1301	111.8	0.14	1562	67.1	0.05	678	58.2	0.04	<30	21
	STOP		573	49.2	0.03	719	30.9	0.01	264	22.7	0.01	-	-
1900	MAX	100%	3197	274.7	0.90	3737	160.5	0.31	1796	154.4	0.28	48	41
	MED	70%	2373	203.9	0.50	2793	120.0	0.17	1308	112.4	0.15	38	31
	MIN	50%	1847	158.7	0.30	2196	94.4	0.11	988	84.9	0.09	33	25
	-	30%	1339	115.0	0.16	1609	69.1	0.06	696	59.8	0.04	<30	21
	STOP		611	52.5	0.03	767	32.9	0.01	282	24.2	0.01	-	-
2000	MAX	100%	4111	353.2	1.59	4789	205.7	0.54	2332	200.4	0.51	49	42
	MED	70%	3012	258.8	0.85	3534	151.8	0.29	1674	143.8	0.26	39	32
	MIN	50%	2310	198.5	0.50	2740	117.7	0.18	1245	107.0	0.15	34	26
	-	30%	1633	140.3	0.25	1958	84.1	0.09	854	73.4	0.07	<30	22
	STOP		663	56.9	0.04	831	35.7	0.02	306	26.3	0.01	-	-
2100	MAX	100%	4149	356.5	1.72	4836	207.8	0.58	2350	201.9	0.55	49	42
	MED	70%	3050	262.1	0.93	3581	153.8	0.32	1693	145.4	0.29	39	32
	MIN	50%	2348	201.8	0.55	2787	119.7	0.19	1264	108.6	0.16	34	26
	-	30%	1671	143.6	0.28	2004	86.1	0.10	873	75.0	0.08	<30	22
	STOP		701	60.2	0.05	879	37.8	0.02	323	27.8	0.01	-	-
2200	MAX	100%	4187	359.8	1.85	4884	209.8	0.63	2366	203.3	0.59	49	42
	MED	70%	3088	265.3	1.00	3628	155.9	0.35	1710	146.9	0.31	39	31
	MIN	50%	2386	205.0	0.60	2834	121.7	0.21	1282	110.2	0.17	34	26
	-	30%	1709	146.8	0.31	2051	88.1	0.11	891	76.6	0.08	<30	22
	STOP		739	63.5	0.06	927	39.8	0.02	341	29.3	0.01	-	-
2300	MAX	100%	4225	363.0	1.98	4933	211.9	0.68	2381	204.6	0.63	49	41
	MED	70%	3126	268.6	1.09	3676	157.9	0.38	1727	148.4	0.33	39	31
	MIN	50%	2424	208.3	0.65	2881	123.8	0.23	1300	111.7	0.19	34	26
	-	30%	1747	150.1	0.34	2098	90.1	0.12	910	78.2	0.09	<30	22
	STOP		777	66.7	0.07	974	41.9	0.03	358	30.8	0.01	-	-
2400	MAX	100%	4263	366.3	2.12	4983	214.1	0.72	2395	205.8	0.67	49	41
	MED	70%	3164	271.9	1.17	3724	160.0	0.40	1743	149.8	0.35	39	31
	MIN	50%	2462	211.6	0.71	2928	125.8	0.25	1318	113.2	0.20	34	26
	-	30%	1785	153.4	0.37	2145	92.2	0.13	928	79.7	0.10	<30	22
	STOP		815	70.0	0.08	1022	43.9	0.03	376	32.3	0.02	-	-
2500	MAX	100%	5177	444.8	3.28	6033	259.2	1.11	2933	252.0	1.05	50	42
	MED	70%	3803	326.8	1.77	4464	191.8	0.61	2111	181.4	0.55	40	32
	MIN	50%	2926	251.4	1.05	3472	149.2	0.37	1576	135.4	0.30	35	27
	-	30%	2079	178.6	0.53	2494	107.1	0.19	1086	93.3	0.14	31	23
	STOP		866	74.4	0.09	1087	46.7	0.04	400	34.4	0.02	-	-
2600	MAX	100%	5215	448.1	3.49	6081	261.2	1.18	2949	253.4	1.11	50	42
	MED	70%	3841	330.0	1.89	4512	193.8	0.65	2129	182.9	0.58	40	32
	MIN	50%	2964	254.7	1.13	3519	151.2	0.40	1594	137.0	0.33	35	27
	-	30%	2117	181.9	0.57	2541	109.1	0.21	1105	94.9	0.16	31	23
	STOP		904	77.7	0.10	1135	48.7	0.04	417	35.9	0.02	-	-

# TKV-13 Lx30x14

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{WA}$	Sound pressure $L_{pA}$
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$		
AC	EC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
2700	MAX	100%	5253	451.3	3.69	6130	263.3	1.26	2965	254.7	1.18	50	42
	MED	70%	3879	333.3	2.01	4559	195.9	0.70	2146	184.4	0.62	40	32
	MIN	50%	3002	257.9	1.21	3566	153.2	0.43	1612	138.5	0.35	35	27
	-	30%	2155	185.2	0.62	2587	111.2	0.22	1123	96.5	0.17	31	23
	STOP		942	81.0	0.12	1182	50.8	0.05	435	37.4	0.03	-	-
2800	MAX	100%	6167	529.8	5.31	7183	308.6	1.80	3498	300.6	1.71	51	43
	MED	70%	4518	388.2	2.85	5301	227.7	0.98	2511	215.8	0.88	41	33
	MIN	50%	3465	297.7	1.68	4111	176.6	0.59	1868	160.5	0.49	36	27
	-	30%	2449	210.4	0.84	2937	126.2	0.30	1281	110.0	0.23	32	23
	STOP		994	85.4	0.14	1247	53.6	0.05	459	39.4	0.03	-	-
2900	MAX	100%	6205	533.1	5.59	7230	310.6	1.90	3516	302.1	1.80	51	43
	MED	70%	4556	391.5	3.02	5348	229.7	1.04	2530	217.4	0.93	41	32
	MIN	50%	3503	301.0	1.78	4157	178.6	0.63	1887	162.1	0.52	36	27
	-	30%	2487	213.7	0.90	2984	128.2	0.32	1300	111.7	0.25	32	23
	STOP		1032	88.7	0.15	1295	55.6	0.06	476	40.9	0.03	-	-
3000	MAX	100%	6243	536.4	5.88	7278	312.7	2.00	3533	303.5	1.88	51	42
	MED	70%	4594	394.7	3.19	5395	231.8	1.10	2548	218.9	0.98	41	32
	MIN	50%	3541	304.3	1.89	4204	180.6	0.67	1905	163.7	0.55	36	27
	-	30%	2525	217.0	0.96	3030	130.2	0.35	1318	113.3	0.26	32	23
	STOP		1070	91.9	0.17	1342	57.7	0.07	494	42.4	0.04	-	-
3200	MAX	100%	6319	542.9	6.48	7375	316.8	2.21	3564	306.2	2.06	51	42
	MED	70%	4670	401.3	3.54	5490	235.9	1.22	2582	221.9	1.08	41	32
	MIN	50%	3617	310.8	2.12	4298	184.6	0.75	1942	166.8	0.61	36	27
	-	30%	2601	223.5	1.10	3124	134.2	0.40	1355	116.5	0.30	32	23
	STOP		1146	98.5	0.21	1438	61.8	0.08	529	45.4	0.05	-	-
3400	MAX	100%	6395	549.4	7.10	7474	321.1	2.43	3593	308.7	2.24	51	42
	MED	70%	4746	407.8	3.91	5586	240.0	1.36	2615	224.7	1.19	41	32
	MIN	50%	3693	317.3	2.37	4393	188.7	0.84	1977	169.8	0.68	36	27
	-	30%	2677	230.0	1.25	3218	138.2	0.45	1392	119.6	0.34	32	23
	STOP		1222	105.0	0.26	1533	65.9	0.10	564	48.5	0.06	-	-
3600	MAX	100%	6471	556.0	7.75	7575	325.4	2.66	3620	311.0	2.43	51	42
	MED	70%	4822	414.3	4.31	5684	244.2	1.50	2647	227.4	1.30	41	32
	MIN	50%	3770	323.9	2.63	4488	192.8	0.93	2011	172.8	0.75	36	27
	-	30%	2753	236.6	1.40	3312	142.3	0.51	1428	122.7	0.38	32	23
	STOP		1298	111.6	0.31	1629	70.0	0.12	599	51.5	0.07	-	-
3800	MAX	-	8298	713.0	13.53	9672	415.5	4.60	4699	403.7	4.34	52	43
	MED	-	6100	524.1	7.31	7162	307.7	2.52	3385	290.8	2.25	42	33
	MIN	-	4696	403.5	4.33	5574	239.4	1.53	2528	217.2	1.26	37	28
	STOP	-	1401	120.4	0.39	1758	75.5	0.15	647	55.6	0.08	-	-
4000	MAX	-	8374	719.5	14.58	9768	419.6	4.96	4731	406.5	4.65	52	43
	MED	-	6176	530.7	7.93	7256	311.7	2.74	3420	293.9	2.43	42	33
	MIN	-	4773	410.1	4.74	5667	243.5	1.67	2565	220.4	1.37	37	28
	STOP	-	1477	126.9	0.45	1853	79.6	0.18	682	58.6	0.10	-	-

## TKV-13 Lx30x14

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{WA}$	Sound pressure $L_{pA}$
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$		
AC	EC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
4200	MAX	-	8450	726.1	15.66	9866	423.9	5.34	4762	409.1	4.97	52	43
	MED	-	6252	537.2	8.57	7352	315.8	2.96	3454	296.8	2.62	42	33
	MIN	-	4849	416.6	5.16	5762	247.5	1.82	2601	223.4	1.48	37	27
	STOP	-	1554	133.5	0.53	1949	83.7	0.21	717	61.6	0.11	-	-
4400	MAX	-	8526	732.6	16.77	9966	428.1	5.73	4790	411.6	5.29	52	43
	MED	-	6329	543.7	9.24	7449	320.0	3.20	3487	299.6	2.80	42	32
	MIN	-	4925	423.1	5.59	5857	251.6	1.98	2636	226.4	1.60	37	27
	STOP	-	1630	140.0	0.61	2044	87.8	0.24	752	64.6	0.13	-	-
4600	MAX	-	8603	739.1	17.91	10066	432.4	6.13	4818	413.9	5.62	52	42
	MED	-	6405	550.3	9.93	7546	324.2	3.45	3519	302.3	3.00	42	32
	MIN	-	5001	429.7	6.05	5952	255.7	2.14	2670	229.4	1.73	37	27
	STOP	-	1706	146.6	0.70	2140	91.9	0.28	787	67.6	0.15	-	-
4800	MAX	-	10430	896.1	27.57	12162	522.5	9.37	5898	506.8	8.82	53	43
	MED	-	7682	660.1	14.96	9023	387.6	5.16	4258	365.8	4.60	43	33
	MIN	-	5928	509.3	8.91	7037	302.3	3.14	3188	273.9	2.58	38	28
	STOP	-	1809	155.4	0.83	2269	97.5	0.33	835	71.7	0.18	-	-
5000	MAX	-	10506	902.7	29.23	12259	526.7	9.95	5930	509.5	9.31	53	43
	MED	-	7759	666.6	15.94	9118	391.7	5.51	4293	368.8	4.88	43	33
	MIN	-	6004	515.8	9.55	7131	306.4	3.37	3224	277.0	2.75	38	28
	STOP	-	1885	162.0	0.94	2365	101.6	0.37	870	74.7	0.20	-	-

**Note:** The level of sound pressure  $L_{pA}$  is calculated based on the level of sound power  $L_{WA}$  emitted by the noise source at a certain distance (1 m) and depends on the installation type (free space or next to a wall).

$Q_h$  [W]: Heating capacity  $\dot{m}_w$  [kg/h]: Water flow  $\Delta p_w$  [kPa]: Pressure drop on the water side

# Technical data

## TKV-13 Lx40x14

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{WA}$ [dB(A)]	Sound pressure $L_{pA}$ [dB(A)]
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$		
AC	EC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
900	MAX	100%	1298	111.5	<0.01	1518	65.2	<0.01	728	62.5	<0.01	42	36
	MED	70%	972	83.5	<0.01	1150	49.4	<0.01	529	45.5	<0.01	32	26
	MIN	50%	770	66.2	<0.01	927	39.8	<0.01	398	34.2	<0.01	<30	22
	-	30%	579	49.8	<0.01	710	30.5	<0.01	285	24.5	<0.01	<30	<20
	STOP		316	27.1	<0.01	403	17.3	<0.01	140	12.0	<0.01	-	-
1000	MAX	100%	1354	116.3	0.01	1593	68.4	<0.01	747	64.2	<0.01	42	35
	MED	70%	1028	88.3	<0.01	1222	52.5	<0.01	551	47.4	<0.01	32	26
	MIN	50%	826	71.0	<0.01	998	42.9	<0.01	423	36.3	<0.01	<30	21
	-	30%	635	54.6	<0.01	781	33.6	<0.01	310	26.7	<0.01	<30	<20
	STOP		372	31.9	<0.01	474	20.4	<0.01	164	14.1	<0.01	-	-
1100	MAX	100%	1410	121.1	0.01	1669	71.7	<0.01	764	65.6	<0.01	42	35
	MED	70%	1084	93.1	<0.01	1295	55.7	<0.01	572	49.2	<0.01	32	26
	MIN	50%	882	75.8	<0.01	1070	46.0	<0.01	446	38.3	<0.01	<30	21
	-	30%	691	59.4	<0.01	852	36.6	<0.01	335	28.8	<0.01	<30	<20
	STOP		428	36.7	<0.01	545	23.4	<0.01	189	16.2	<0.01	-	-
1200	MAX	100%	2484	213.5	0.03	2894	124.3	0.01	1410	121.1	0.01	45	38
	MED	70%	1833	157.5	0.01	2159	92.8	<0.01	1008	86.6	<0.01	35	29
	MIN	50%	1428	122.7	0.01	1715	73.7	<0.01	745	64.0	<0.01	31	24
	-	30%	1047	90.0	<0.01	1281	55.1	<0.01	518	44.5	<0.01	<30	20
	STOP		520	44.7	<0.01	663	28.5	<0.01	230	19.7	<0.01	-	-
1300	MAX	100%	2540	218.3	0.03	2964	127.3	0.01	1434	123.2	0.01	45	38
	MED	70%	1889	162.3	0.02	2228	95.7	0.01	1034	88.9	<0.01	35	29
	MIN	50%	1484	127.5	0.01	1784	76.6	<0.01	771	66.3	<0.01	31	24
	-	30%	1103	94.8	0.01	1351	58.0	<0.01	544	46.8	<0.01	<30	20
	STOP		576	49.5	<0.01	734	31.5	<0.01	254	21.9	<0.01	-	-
1400	MAX	100%	2596	223.1	0.03	3036	130.4	0.01	1456	125.1	0.01	45	38
	MED	70%	1945	167.1	0.02	2299	98.8	0.01	1058	90.9	0.01	35	29
	MIN	50%	1540	132.3	0.01	1854	79.6	<0.01	797	68.5	<0.01	31	24
	-	30%	1159	99.6	0.01	1421	61.0	<0.01	570	49.0	<0.01	<30	20
	STOP		632	54.3	<0.01	805	34.6	<0.01	279	24.0	<0.01	-	-
1500	MAX	100%	2652	227.9	0.04	3111	133.6	0.01	1475	126.8	0.01	45	38
	MED	70%	2001	171.9	0.02	2371	101.9	0.01	1081	92.9	0.01	35	29
	MIN	50%	1596	137.1	0.01	1925	82.7	0.01	821	70.6	<0.01	31	24
	-	30%	1215	104.4	0.01	1491	64.1	<0.01	596	51.2	<0.01	<30	<20
	STOP		688	59.1	<0.01	876	37.7	<0.01	304	26.1	<0.01	-	-
1600	MAX	100%	2708	232.7	0.04	3186	136.9	0.02	1493	128.3	0.01	45	38
	MED	70%	2056	176.7	0.03	2444	105.0	0.01	1103	94.8	0.01	35	28
	MIN	50%	1652	141.9	0.02	1996	85.8	0.01	845	72.6	<0.01	31	24
	-	30%	1271	109.2	0.01	1562	67.1	<0.01	620	53.3	<0.01	<30	<20
	STOP		743	63.9	<0.01	947	40.7	<0.01	328	28.2	<0.01	-	-
1700	MAX	100%	3782	325.0	0.09	4410	189.5	0.03	2140	183.8	0.03	46	39
	MED	70%	2805	241.0	0.05	3308	142.1	0.02	1538	132.2	0.02	37	30
	MIN	50%	2198	188.9	0.03	2641	113.5	0.01	1144	98.3	0.01	32	25
	-	30%	1627	139.8	0.02	1991	85.5	0.01	803	69.0	<0.01	<30	21
	STOP		836	71.8	<0.01	1065	45.8	<0.01	369	31.7	<0.01	-	-

## TKV-13 Lx40x14

Housing length L [mm]	Fan speed		Heating capacity									Sound power	Sound pressure
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	L <sub>WA</sub>	L <sub>PA</sub>
AC	EC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
1800	MAX	100%	3838	329.8	0.10	4482	192.5	0.04	2163	185.8	0.03	46	39
	MED	70%	2861	245.8	0.06	3378	145.1	0.02	1564	134.3	0.02	37	30
	MIN	50%	2254	193.7	0.04	2711	116.4	0.01	1170	100.5	0.01	32	25
	-	30%	1683	144.6	0.02	2061	88.5	0.01	830	71.3	<0.01	<30	21
	STOP		892	76.6	0.01	1137	48.8	<0.01	394	33.8	<0.01	-	-
1900	MAX	100%	3894	334.6	0.12	4555	195.7	0.04	2184	187.6	0.04	46	39
	MED	70%	2917	250.6	0.06	3449	148.2	0.02	1588	136.4	0.02	37	30
	MIN	50%	2310	198.5	0.04	2781	119.5	0.01	1195	102.7	0.01	32	25
	-	30%	1738	149.4	0.02	2131	91.6	0.01	855	73.5	0.01	<30	21
	STOP		948	81.4	0.01	1208	51.9	<0.01	419	36.0	<0.01	-	-
2000	MAX	100%	4969	426.9	0.20	5787	248.6	0.07	2819	242.2	0.06	48	40
	MED	70%	3666	315.0	0.11	4318	185.5	0.04	2016	173.2	0.03	38	31
	MIN	50%	2857	245.4	0.07	3429	147.3	0.02	1490	128.0	0.02	34	26
	-	30%	2095	180.0	0.04	2563	110.1	0.01	1036	89.0	0.01	<30	22
	STOP		1040	89.4	0.01	1326	56.9	<0.01	459	39.5	<0.01	-	-
2100	MAX	100%	5025	431.7	0.22	5857	251.6	0.07	2845	244.4	0.07	48	40
	MED	70%	3722	319.8	0.12	4387	188.5	0.04	2042	175.5	0.04	38	31
	MIN	50%	2913	250.2	0.07	3498	150.3	0.03	1517	130.3	0.02	34	26
	-	30%	2150	184.8	0.04	2632	113.1	0.01	1063	91.3	0.01	<30	22
	STOP		1096	94.2	0.01	1397	60.0	<0.01	484	41.6	<0.01	-	-
2200	MAX	100%	5080	436.5	0.23	5928	254.7	0.08	2868	246.5	0.07	48	40
	MED	70%	3778	324.6	0.13	4457	191.5	0.05	2068	177.7	0.04	38	31
	MIN	50%	2968	255.0	0.08	3568	153.3	0.03	1543	132.6	0.02	34	26
	-	30%	2206	189.6	0.04	2701	116.1	0.02	1089	93.6	0.01	<30	22
	STOP		1152	99.0	0.01	1468	63.1	<0.01	509	43.7	<0.01	-	-
2300	MAX	100%	5136	441.3	0.25	6000	257.7	0.09	2891	248.4	0.08	48	40
	MED	70%	3834	329.4	0.14	4527	194.5	0.05	2093	179.8	0.04	38	31
	MIN	50%	3024	259.8	0.09	3637	156.3	0.03	1569	134.8	0.02	34	26
	-	30%	2262	194.4	0.05	2771	119.1	0.02	1115	95.8	0.01	<30	22
	STOP		1208	103.8	0.01	1539	66.1	0.01	533	45.8	<0.01	-	-
2400	MAX	100%	5192	446.1	0.27	6073	260.9	0.09	2912	250.2	0.09	48	40
	MED	70%	3889	334.2	0.15	4598	197.5	0.05	2117	181.9	0.05	38	30
	MIN	50%	3080	264.6	0.10	3708	159.3	0.03	1594	136.9	0.03	34	26
	-	30%	2318	199.2	0.05	2841	122.1	0.02	1140	98.0	0.01	<30	22
	STOP		1263	108.6	0.02	1610	69.2	0.01	558	48.0	<0.01	-	-
2500	MAX	100%	6267	538.4	0.42	7303	313.8	0.14	3550	305.0	0.13	49	40
	MED	70%	4638	398.5	0.23	5466	234.8	0.08	2546	218.8	0.07	39	31
	MIN	50%	3627	311.6	0.14	4355	187.1	0.05	1889	162.3	0.04	35	26
	-	30%	2674	229.8	0.08	3273	140.6	0.03	1322	113.6	0.02	31	23
	STOP		1356	116.5	0.02	1728	74.2	0.01	599	51.5	<0.01	-	-
2600	MAX	100%	6323	543.2	0.44	7374	316.8	0.15	3574	307.1	0.14	49	40
	MED	70%	4694	403.3	0.24	5536	237.8	0.08	2573	221.0	0.07	39	31
	MIN	50%	3683	316.4	0.15	4425	190.1	0.05	1915	164.6	0.04	35	26
	-	30%	2730	234.6	0.08	3342	143.6	0.03	1348	115.8	0.02	31	23
	STOP		1412	121.3	0.02	1799	77.3	0.01	624	53.6	<0.01	-	-

# TKV-13 Lx40x14

Housing length L [mm]	Fan speed		Heating capacity									Sound power $L_{WA}$	Sound pressure $L_{pA}$
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$	$Q_h$	$\dot{m}_w$	$\Delta p_w$		
AC	EC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
2700	MAX	100%	6379	548.0	0.47	7445	319.9	0.16	3597	309.0	0.15	49	40
	MED	70%	4750	408.1	0.26	5606	240.8	0.09	2598	223.2	0.08	39	31
	MIN	50%	3738	321.2	0.16	4494	193.1	0.06	1941	166.8	0.04	35	26
	-	30%	2786	239.4	0.09	3412	146.6	0.03	1374	118.1	0.02	31	22
	STOP		1468	126.1	0.02	1870	80.4	0.01	648	55.7	0.00	-	-
2800	MAX	100%	7453	640.4	0.67	8681	372.9	0.23	4229	363.3	0.22	49	41
	MED	70%	5499	472.5	0.36	6477	278.3	0.13	3023	259.8	0.11	40	32
	MIN	50%	4285	368.2	0.22	5144	221.0	0.08	2234	192.0	0.06	35	27
	-	30%	3142	270.0	0.12	3844	165.1	0.04	1554	133.5	0.03	32	23
	STOP		1560	134.0	0.03	1988	85.4	0.01	689	59.2	0.01	-	-
2900	MAX	100%	7509	645.2	0.71	8750	375.9	0.24	4254	365.5	0.23	49	41
	MED	70%	5555	477.3	0.39	6546	281.2	0.13	3050	262.1	0.12	40	32
	MIN	50%	4341	373.0	0.24	5213	223.9	0.09	2261	194.3	0.06	35	27
	-	30%	3198	274.7	0.13	3913	168.1	0.05	1581	135.8	0.03	32	23
	STOP		1616	138.8	0.03	2059	88.5	0.01	714	61.3	0.01	-	-
3000	MAX	100%	7565	650.0	0.75	8820	378.9	0.25	4279	367.7	0.24	49	41
	MED	70%	5611	482.1	0.41	6615	284.2	0.14	3077	264.4	0.12	40	32
	MIN	50%	4397	377.8	0.25	5282	226.9	0.09	2288	196.6	0.07	35	27
	-	30%	3254	279.5	0.14	3983	171.1	0.05	1607	138.1	0.03	32	23
	STOP		1672	143.6	0.04	2131	91.5	0.01	738	63.4	0.01	-	-
3200	MAX	100%	7677	659.6	0.83	8963	385.1	0.28	4325	371.6	0.26	49	41
	MED	70%	5722	491.7	0.46	6755	290.2	0.16	3127	268.7	0.14	40	31
	MIN	50%	4508	387.4	0.29	5421	232.9	0.10	2340	201.1	0.08	35	27
	-	30%	3365	289.1	0.16	4122	177.1	0.06	1659	142.6	0.04	32	23
	STOP		1784	153.2	0.04	2273	97.7	0.02	788	67.7	0.01	-	-
3400	MAX	100%	7788	669.2	0.91	9109	391.3	0.31	4367	375.3	0.29	49	40
	MED	70%	5834	501.3	0.51	6897	296.3	0.18	3175	272.8	0.15	40	31
	MIN	50%	4620	397.0	0.32	5562	238.9	0.12	2391	205.4	0.09	35	26
	-	30%	3477	298.7	0.18	4262	183.1	0.07	1711	147.0	0.04	32	23
	STOP		1895	162.8	0.05	2415	103.8	0.02	837	71.9	0.01	-	-
3600	MAX	100%	7900	678.8	1.00	9257	397.7	0.34	4407	378.6	0.31	49	40
	MED	70%	5946	510.9	0.57	7041	302.5	0.20	3221	276.8	0.17	40	31
	MIN	50%	4732	406.6	0.36	5703	245.0	0.13	2440	209.6	0.10	35	26
	-	30%	3589	308.3	0.21	4403	189.1	0.08	1761	151.3	0.05	32	22
	STOP		2007	172.4	0.06	2558	109.9	0.03	886	76.2	0.01	-	-
3800	MAX	-	10049	863.4	1.72	11714	503.2	0.58	5689	488.8	0.55	51	41
	MED	-	7444	639.6	0.94	8774	376.9	0.33	4085	351.0	0.28	41	32
	MIN	-	5825	500.5	0.58	6996	300.6	0.21	3033	260.6	0.16	37	27
	STOP	-	2192	188.3	0.08	2793	120.0	0.03	968	83.2	0.02	-	-
4000	MAX	-	10161	873.0	1.86	11855	509.3	0.63	5737	492.9	0.59	51	41
	MED	-	7556	649.2	1.03	8913	382.9	0.36	4136	355.4	0.31	41	32
	MIN	-	5937	510.1	0.63	7135	306.5	0.23	3086	265.1	0.17	37	27
	STOP	-	2304	197.9	0.10	2936	126.1	0.04	1017	87.4	0.02	-	-

## TKV-13 Lx40x14

Housing length L [mm]	Fan speed		Heating capacity									Sound power L <sub>WA</sub>	Sound pressure L <sub>pA</sub>
			75 °C / 65 °C / 20 °C			90 °C / 70 °C / 20 °C			55 °C / 45 °C / 20 °C				
			Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$	Q <sub>h</sub>	$\dot{m}_w$	$\Delta p_w$		
AC	EC	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[W]	[kg/h]	[kPa]	[dB(A)]	[dB(A)]	
4200	MAX	-	10273	882.6	2.00	11999	515.5	0.68	5781	496.7	0.63	51	41
	MED	-	7667	658.8	1.11	9054	389.0	0.39	4186	359.6	0.33	41	32
	MIN	-	6048	519.7	0.69	7275	312.5	0.25	3137	269.5	0.19	37	27
	STOP	-	2415	207.5	0.11	3078	132.2	0.04	1067	91.7	0.02	-	-
4400	MAX	-	10384	892.2	2.15	12145	521.8	0.74	5823	500.3	0.68	51	41
	MED	-	7779	668.4	1.21	9196	395.1	0.42	4233	363.7	0.36	41	32
	MIN	-	6160	529.3	0.76	7415	318.6	0.27	3187	273.9	0.20	37	27
	STOP	-	2527	217.1	0.13	3220	138.4	0.05	1116	95.9	0.02	-	-
4600	MAX	-	10496	901.8	2.31	12293	528.1	0.79	5863	503.8	0.72	51	41
	MED	-	7891	678.0	1.30	9339	401.2	0.46	4280	367.7	0.38	41	32
	MIN	-	6272	538.9	0.82	7557	324.6	0.30	3237	278.1	0.22	37	27
	STOP	-	2639	226.7	0.15	3363	144.5	0.06	1165	100.1	0.03	-	-
4800	MAX	-	12645	1086.5	3.51	14748	633.6	1.19	7148	614.1	1.12	52	41
	MED	-	9389	806.7	1.93	11071	475.6	0.67	5145	442.1	0.58	42	32
	MIN	-	7365	632.8	1.19	8849	380.2	0.43	3831	329.2	0.32	38	28
	STOP	-	2824	242.6	0.17	3599	154.6	0.07	1247	107.2	0.03	-	-
5000	MAX	-	12757	1096.1	3.73	14891	639.7	1.27	7194	618.1	1.19	52	41
	MED	-	9500	816.3	2.07	11212	481.6	0.72	5195	446.4	0.62	42	32
	MIN	-	7477	642.4	1.28	8989	386.1	0.46	3883	333.6	0.35	38	27
	STOP	-	2935	252.2	0.20	3741	160.7	0.08	1296	111.4	0.04	-	-

**Note:** The level of sound pressure L<sub>pA</sub> is calculated based on the level of sound power L<sub>WA</sub> emitted by the noise source at a certain distance (1 m) and depends on the installation type (free space or next to a wall).

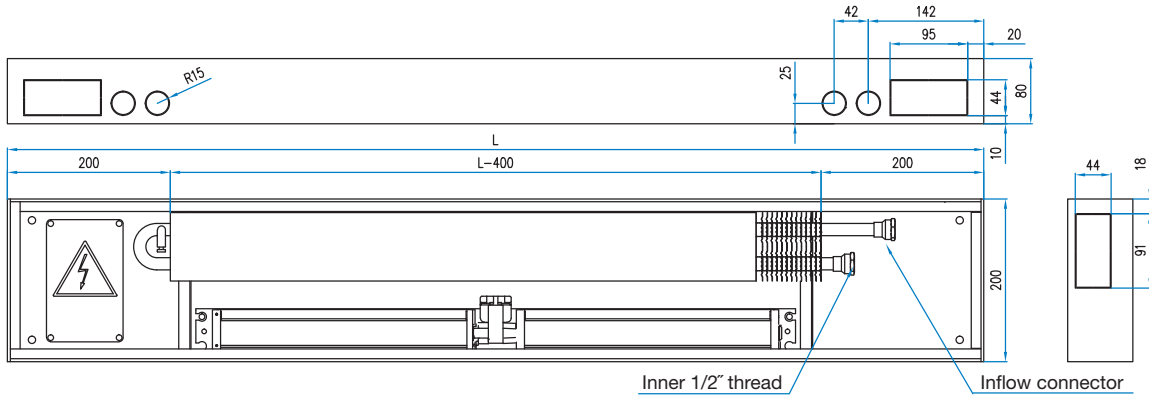
Q<sub>h</sub> [W]: Heating capacity  $\dot{m}_w$  [kg/h]: Water flow  $\Delta p_w$  [kPa]: Pressure drop on the water side

## Other technical data for TKV-13 Lx20x14, Lx30x14, Lx40x14

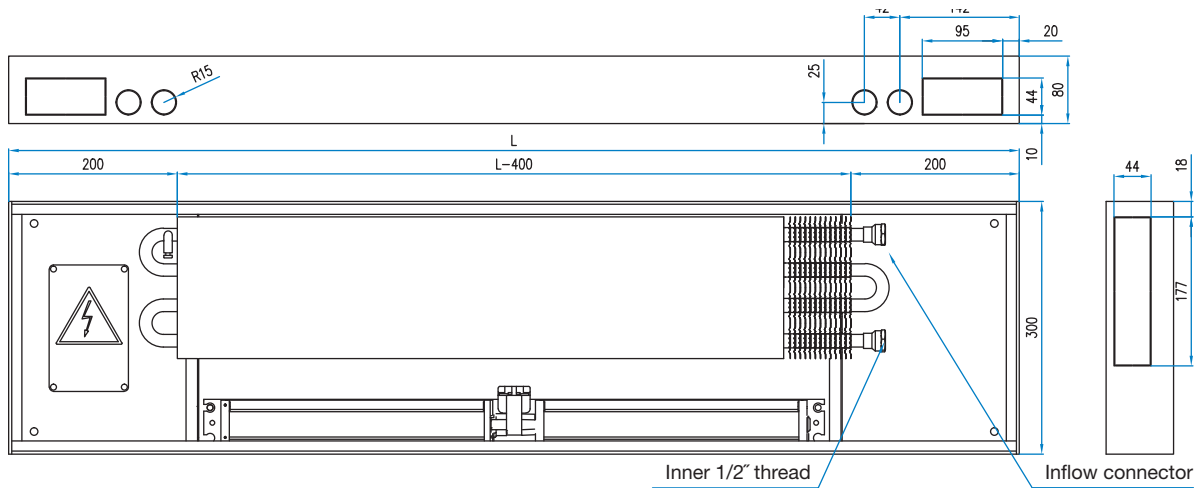
Housing length [mm]	Fan designation (max. no. of fans)	Water connectors dimensions ["]	Air flow [m <sup>3</sup> /h]	Max. input power [W]	Max. input current [A]
900-1100	1 1	3/4	80	12	0.10
1200-1600	1 2	3/4	160	24	0.20
1700-1900	2 3	3/4	240	36	0.30
2000-2400	2 4	3/4	320	48	0.40
2500-2700	3 5	3/4	400	60	0.50
2800-3600	3 6	3/4	480	72	0.60
3800-4600	4 8	3/4	640	96	0.80
4800-5000	5 10	3/4	800	120	1.00

# Dimensions

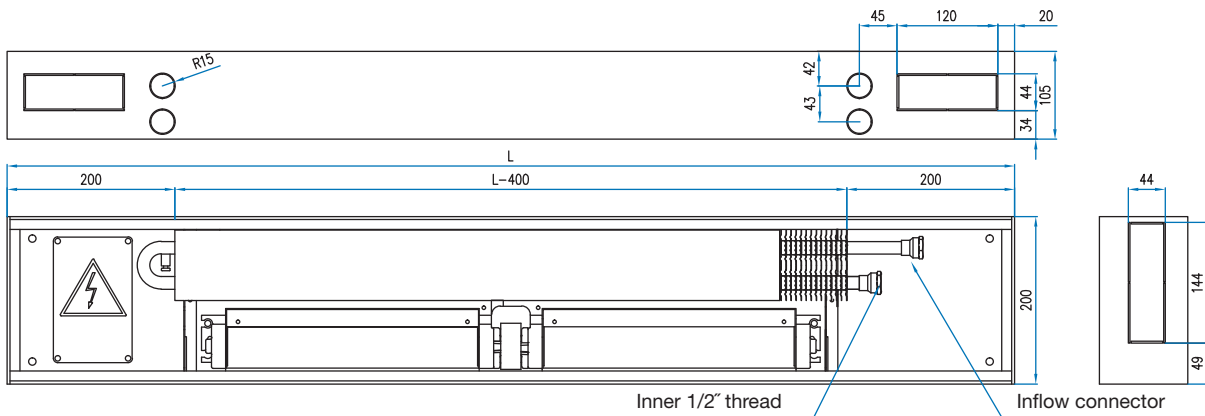
## TKV-13 Lx20x08



## TKV-13 Lx30x08

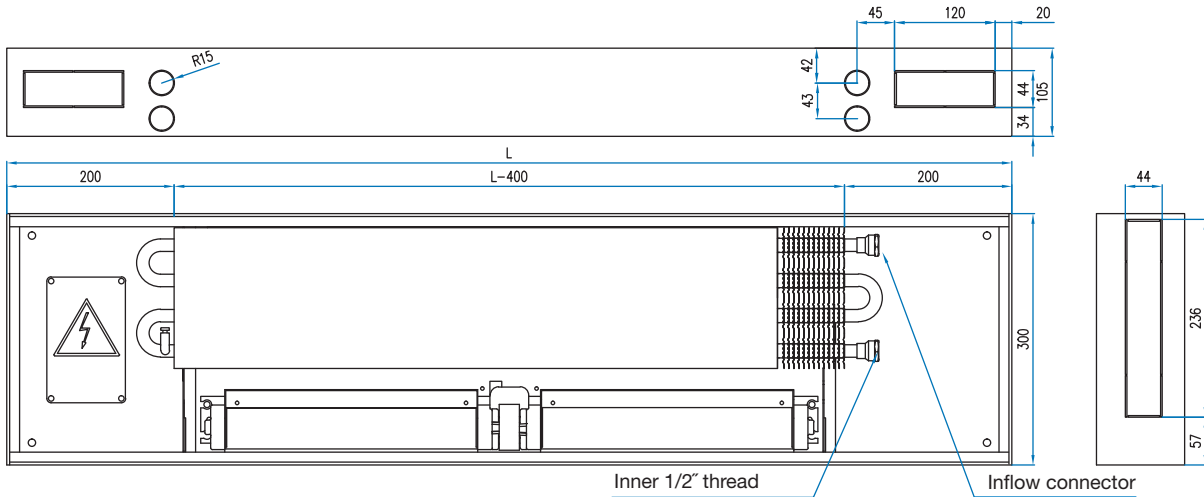


## TKV-13 Lx20x10

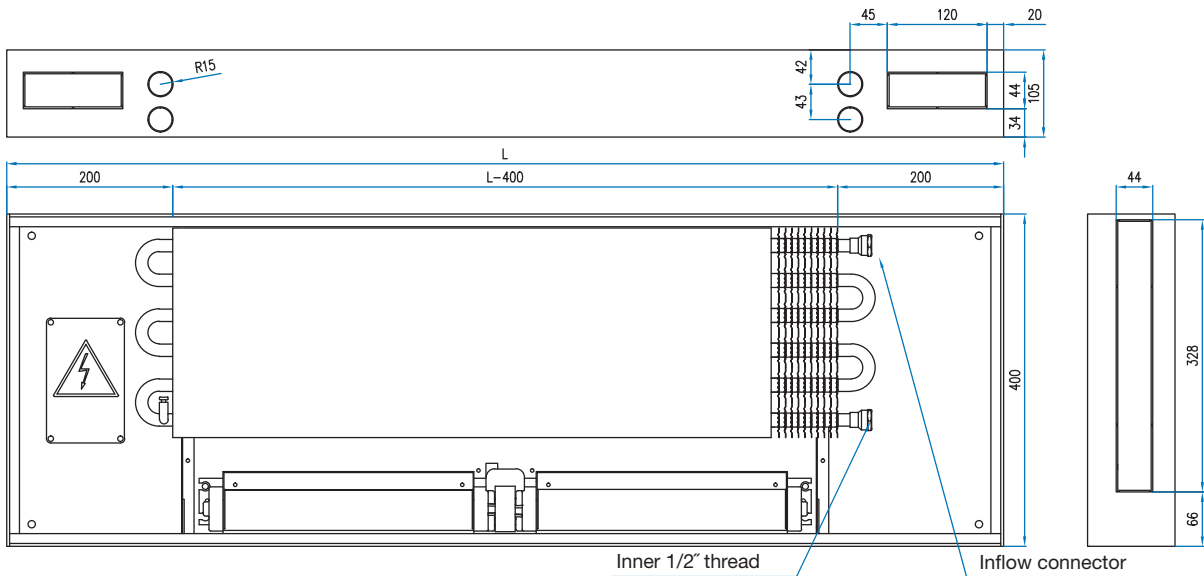


# Dimensions

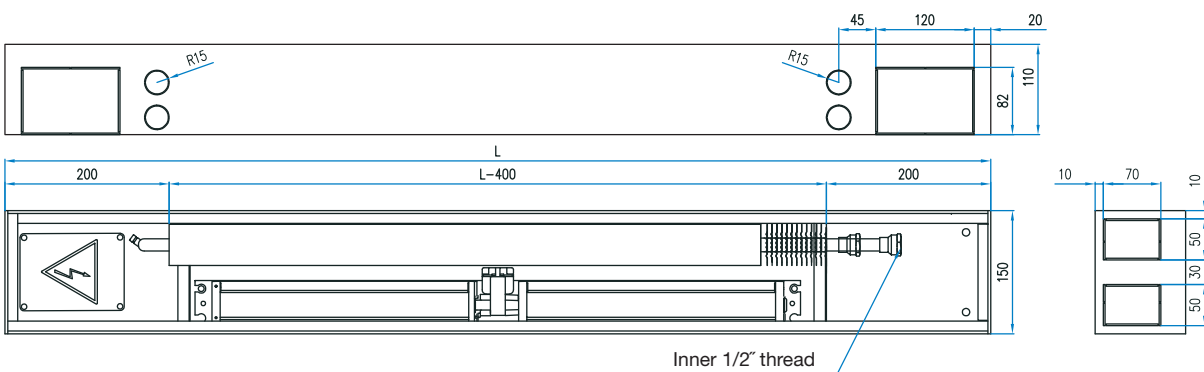
## TKV-13 Lx30x10



## TKV-13 Lx40x10

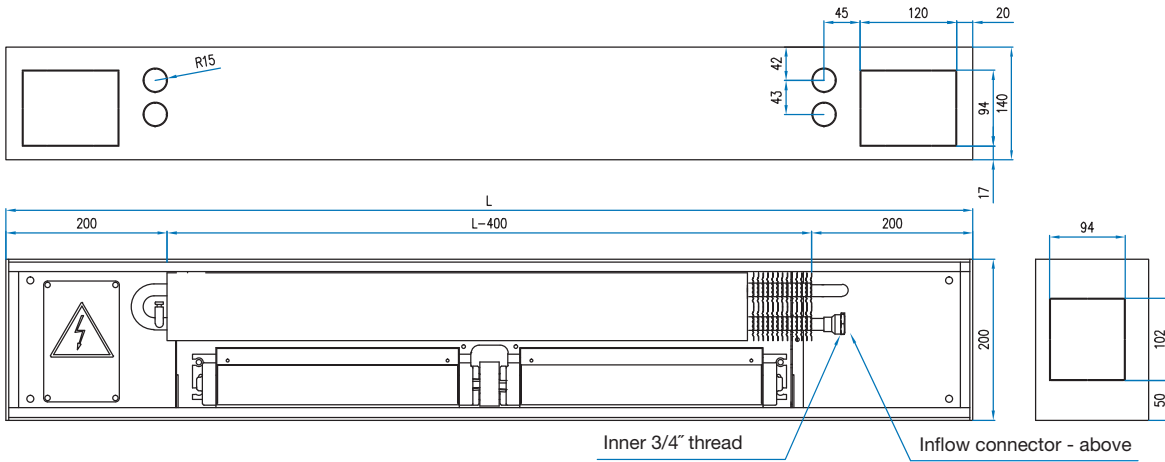


## TKV-13 Lx15x11

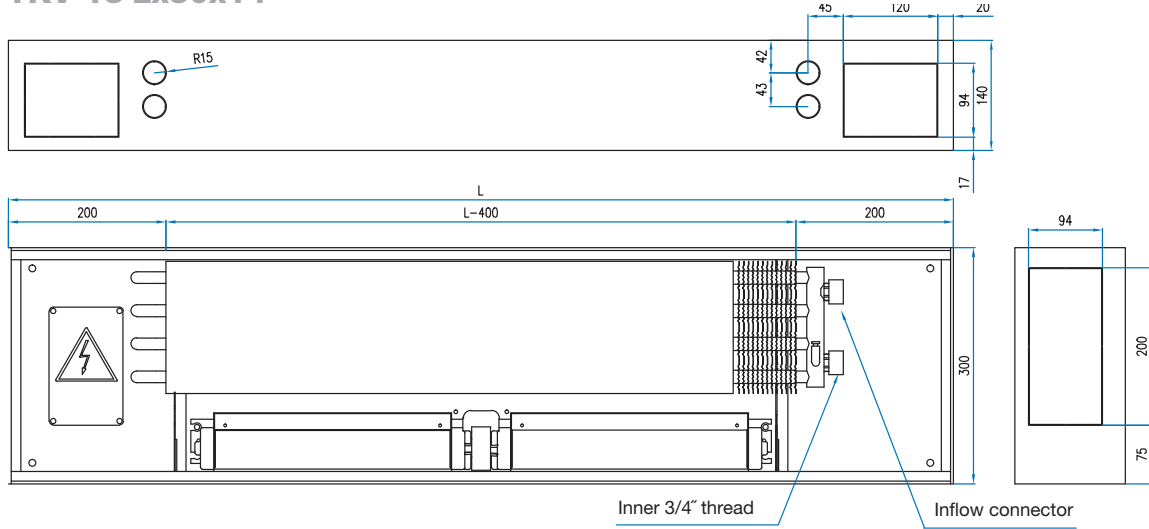


# Dimensions

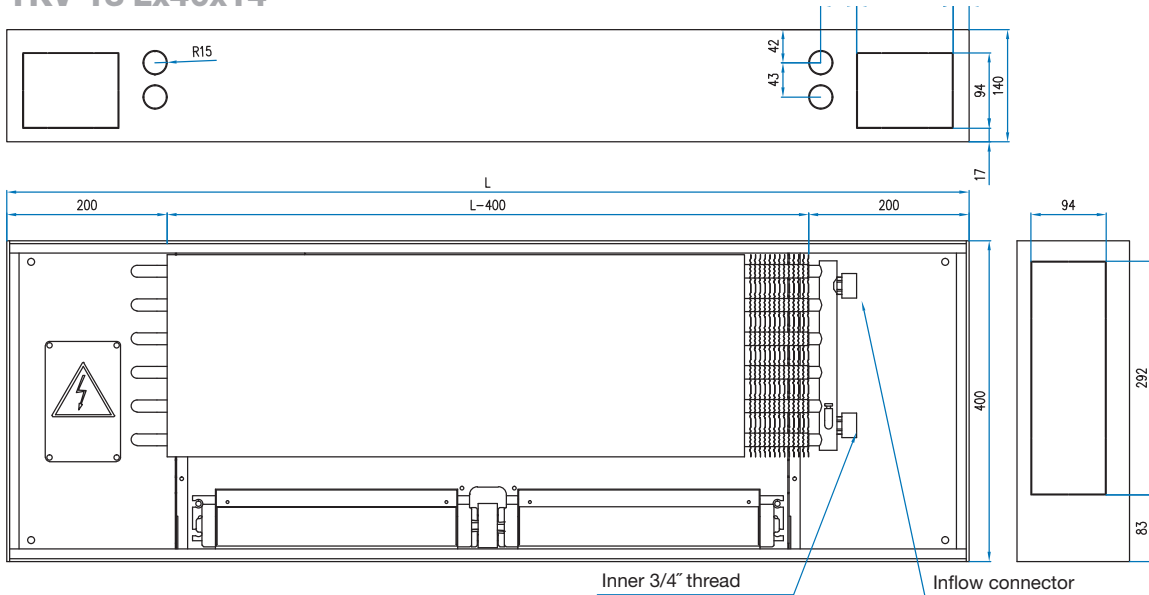
## TKV-13 Lx20x14



## TKV-13 Lx30x14



## TKV-13 Lx40x14

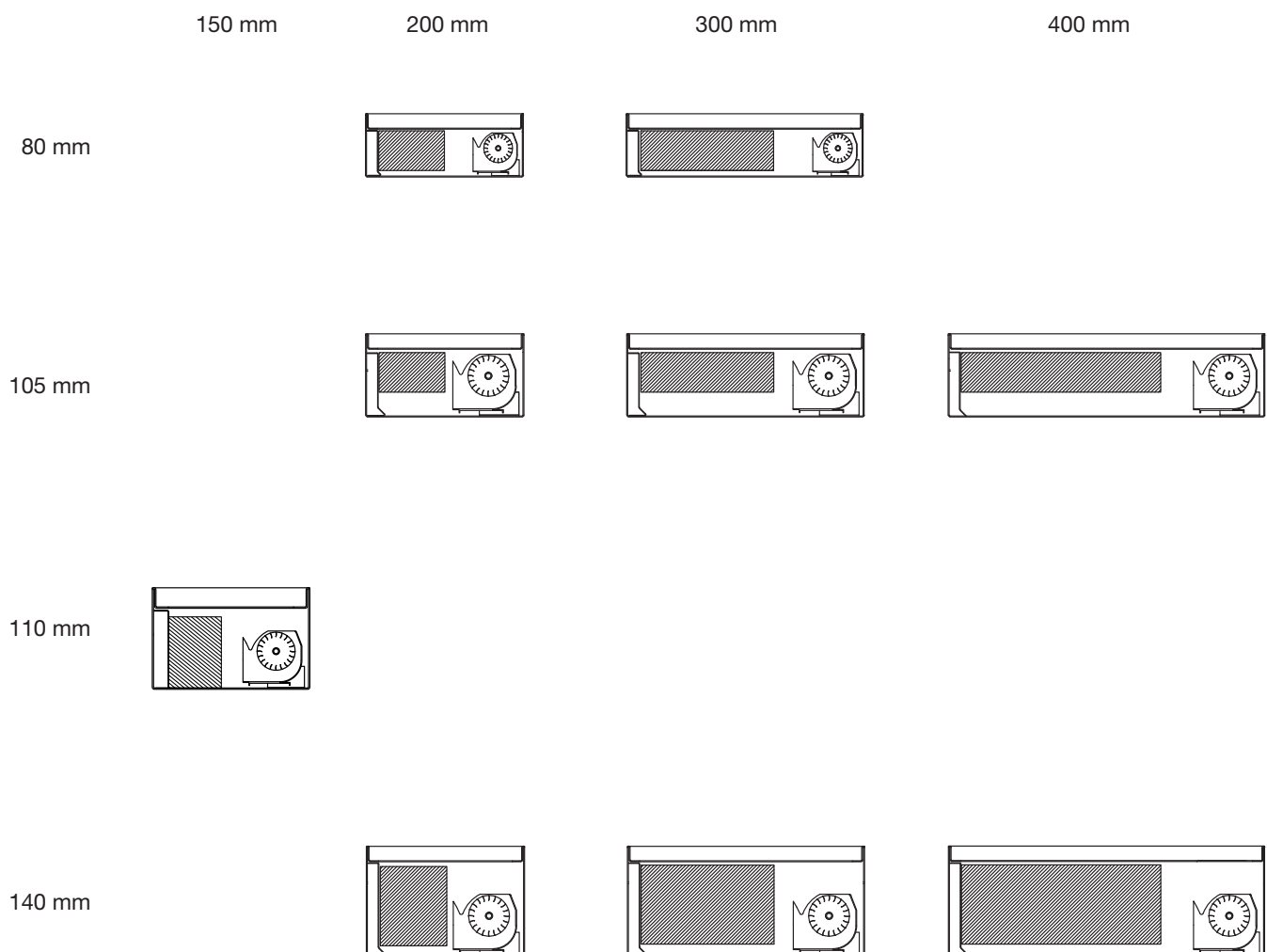


# Quick overview of floor convectors TKV-13

## Basic characteristics

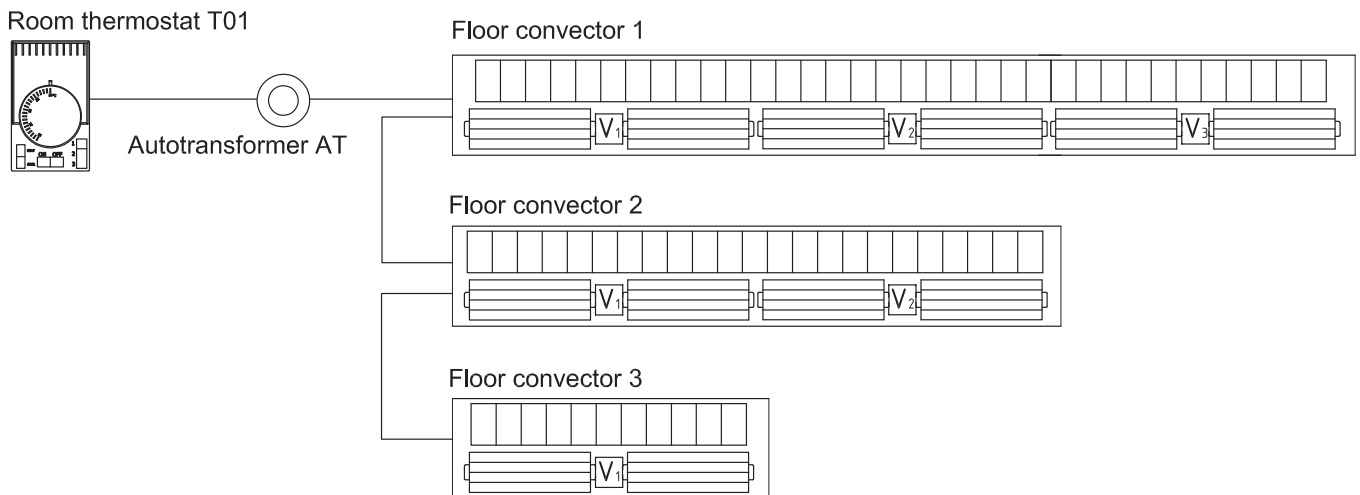
<b>Heating capacities</b>	<b>up to 15 kW</b>
Length	900 – 5000 mm up to 3000 mm increment 100 mm over 3000 mm increment 200 mm
Width	150, 200, 300, 400 mm
Height	80 (width 200 and 300 only), 105, 110 (width 150 only), 140 mm
No. of fans	1 - 5
Fan speed	MAX-MED-MIN-STOP (AC) or continuous (EC)

## Dimensions

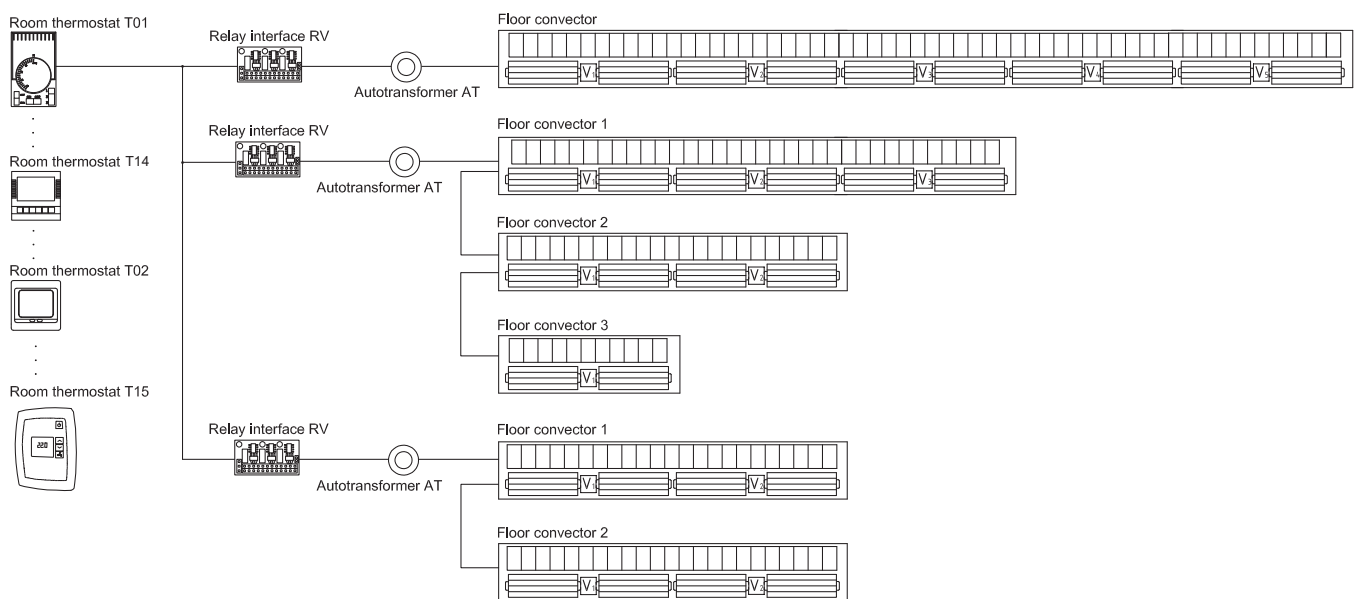


# Examples of floor convectors connections into groups

Example 1: 2-pipe system, 3-step speed regulation, room thermostat T01 up to 6 fans

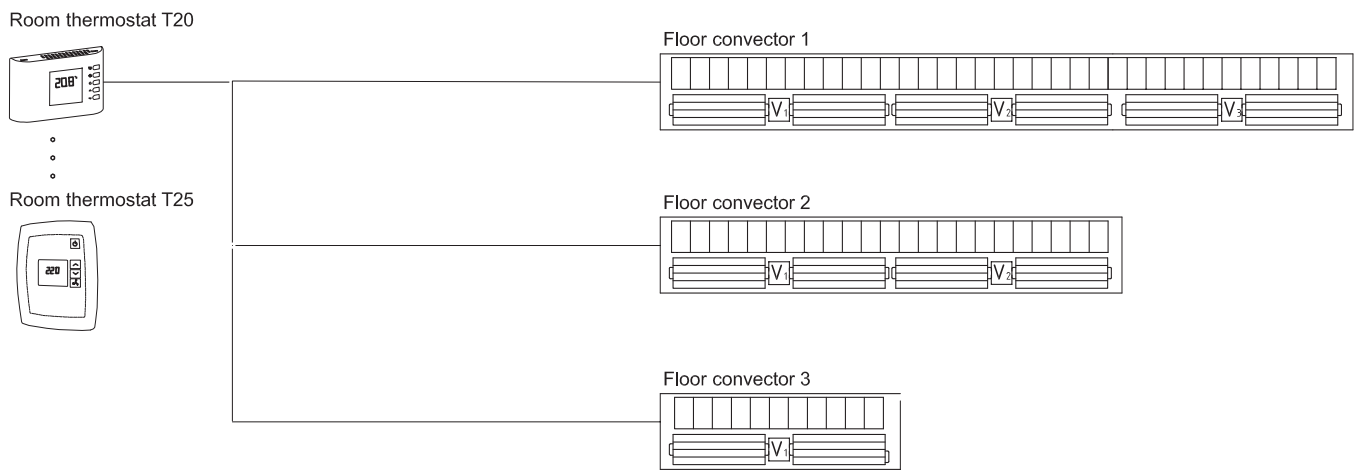


Example 2: 2-pipe system, 3-step speed regulation, room thermostat T01, T02, T14 or T15



# Examples of floor convectors connections into groups

Example 4: 2-pipe system, continuous speed regulation of EC fans, room thermostat T20 or T25



Note: Always observe national regulations for electric connections!

# Accessories

## Tread-on grilles

Code	Tread-on grille	
111	<b>Standard tread-on grille design: longitudinal fixed aluminium grille</b>	<b>Anodised:</b> natural aluminium colour, black, brass colour, chocolate, bronze*
114	<b>roll-up aluminium grille</b>	<b>Anodised:</b> natural aluminium colour, black, brass colour, chocolate, bronze
114W	<b>roll-up wooden grille</b>	<b>Wood type:</b> oak, ash, walnut, mahogany, wenge, cherry
114SS	<b>roll-up steel grille</b>	<b>Stainless steel</b>

\* For longitudinal grilles other colors according RAL scale are available on customer's request.

Code	Control accessories
	<b>Water side control (control of the warm water flow rate into the convector)</b>
01	Manual valve R1/2", R3/4", straight
02	Manual valve R1/2", R3/4", angular
03	Radiator shut-off cock R1/2", R3/4", straight
04	Radiator shut-off cock R1/2", R3/4", angular
VP2	Two-way valve with ET actuators ON-OFF (2-pipe set)
VT2	Three way valve with ET actuator ON-OFF (2-pipe set)

Code	Thermostats, air side control accessories
T01	Room thermostat for 2-pipe systems, surface installation
T02	LCD room thermostat for 2-pipe systems, semi-flush installation
T14	LCD room thermostat for 2-pipe systems, semi-flush installation
T15	LCD room thermostat with BMS communication for 3-speed regulation, for 2- or 4-pipe systems, surface installation
T20	Room thermostat for continuous regulation of AC and EC fans, surface installation
T25	LCD room thermostat with BMS communication for continuous regulation of AC and EC fans, for 2- or 4-pipe systems, surface installation
RV	Relay interface for 2- and 4-pipe systems
AT45, AT30	Autotransformer for AC fans control

Code	Other accessories
010(xx°)*	Corner design of convector and grille
017	Housing thermal insulation
018	Wooden protection cover (protection of the convector during the installation)
020(rxxxx)**	Round shaped convector and grille
021	Aluminium frame, fixed to the housing
028	Level adjusting legs, levelling height 20-70 mm
029	Level adjusting and support legs, with reinforced housing (upon request)
032	Connection for fresh air supply, without damper (upon request)
033	Connection for fresh air supply, with damper (upon request)
040	Lowered side

\*(xx°) = state desired angle, e.g. 90°

\*\* (rxxxx) = state desired radius on the wall side

## Types and colours of tread-on grilles

Longitudinal tread-on grilles are designed to withstand the weight of an individual person, while in case of larger loads roll-up grilles are recommended.

### Longitudinal aluminium tread-on grilles

**111D** longitudinal fixed grille, anodised in natural aluminium colour



**111B** longitudinal fixed grille, anodised in black colour



**111C** longitudinal fixed grille, anodised in brass colour



**111E** longitudinal fixed grille, anodised in chocolate colour

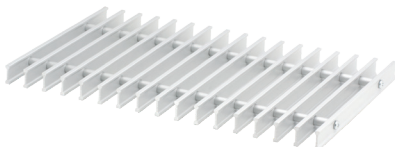


**111F** longitudinal fixed grille, anodised in bronze colour

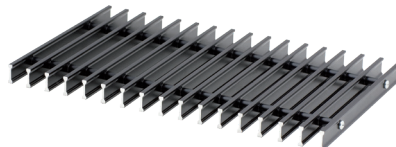


### Aluminium and stainless steel roll-up grilles

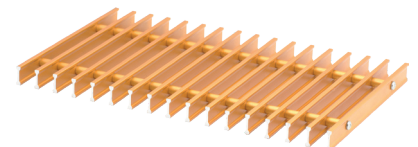
**114D** roll-up grille, anodised in natural aluminium colour



**114B** roll-up grille, anodised in black colour



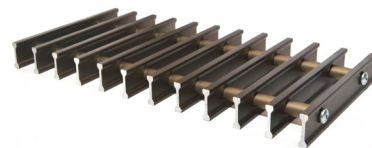
**114C** roll-up grille, anodised in brass colour



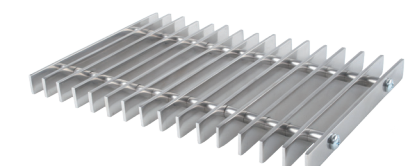
**114E** roll-up grille, anodised in chocolate colour



**114F** roll-up grille, anodised in bronze colour

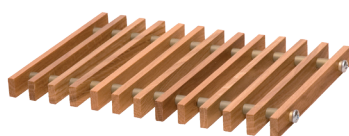


**114SS** roll-up grille, stainless steel

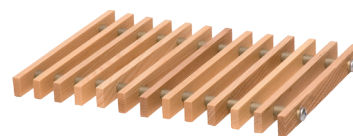


### Wooden roll-up grilles

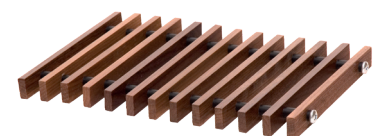
**114W1** oak wood



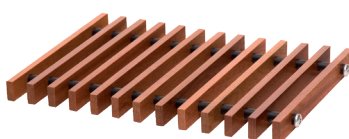
**114W2** ash wood



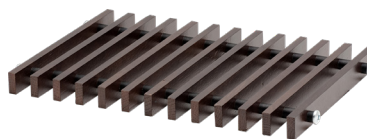
**114W3** walnut wood



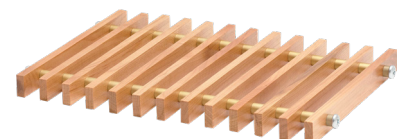
**114W4** mahogany wood



**114W5** wenge wood



**114W6** cherry wood

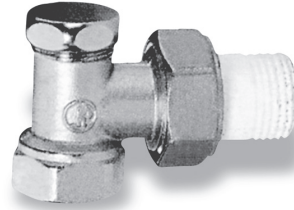


## Water side control accessories

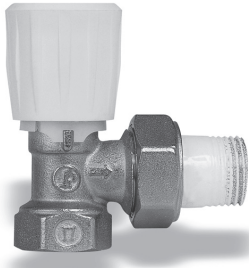
**01** Manual valve R1/2" ali R3/4", straight



**04** Radiator shut-off cock R1/2" or R3/4", angular



**02** Manual valve R1/2" or R3/4", angular



**VP2** Two-way valve with ET actuators ON-OFF (2-pipe set)



**03** Radiator shut-off cock R1/2" ali R3/4", straight



**VT2** Three way valve with ET actuator ON-OFF (2-pipe set)



### Notes:

- Valve size (R1/2", R3/4") depends on the size of heat exchanger connector size (not necessary to state).
- Manual valves 01-04 are only supplied with the convector but not installed, sets of two- and three-way valves are installed,
- Sets of three-way valves VT2 require more space for installation, possibility of installation should be confirmed by the producer before an order.

## Thermostats

### T01 Room thermostat

- for 2-pipe systems
- wall installation
- room temperature setup
- manual speed selection
- manual regime (heating – cooling) selection



### T02 Electronic LCD room thermostat (touch screen)

- for 2-pipe systems
- semi-flush installation into the enclosed electrical socket
- setup and display of room temperature
- manual or auto speed selection
- manual regime (heating – cooling) selection



### T14 Electronic LCD room thermostat

- for 2-pipe systems
- semi-flush installation into standard electrical socket Ø60 mm (not enclosed)
- setup and display of room temperature
- manual or auto speed selection
- automatic regime selection (heating – cooling) for 2-pipes systems



### T15 Electronic LCD room thermostat with communication

- for 2-pipe and 4-pipe systems
- with Modbus, BACnet or EXOline communication
- wall installation
- display of room temperature, set room temperature and parameters
- manual 3-step (MIN-MED-MAX) or auto speed selection
- automatic regime selection (heating – cooling– auto)



### T20 Electronic LCD room thermostat

- for continuous control of AC or EC fans
- for 2-pipe and 4-pipe systems
- wall installation
- display of room temperature, set room temperature and parameters
- manual 3-step (MIN-MED-MAX) or continuous (2-10 Vdc) fan speed regulation
- manual regime selection (heating–cooling–auto)



### T25 Electronic LCD room thermostat with communication

- for continuous control of AC or EC fans
- with Modbus, BACnet or EXOline communication
- for 2-pipe and 4-pipe systems
- wall installation
- display of room temperature, set room temperature and parameters
- manual 3-step (MIN-MED-MAX) or continuous (2-10 Vdc) fan speed regulation
- automatic regime selection (heating–cooling–auto)



## Air side control accessories

### AT45 / AT30

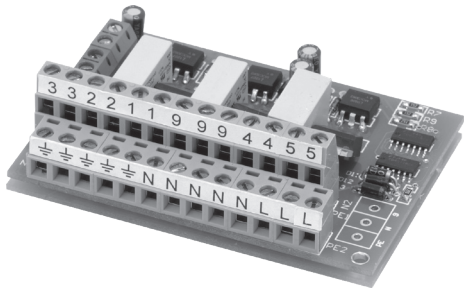
Autotransformer AT45/AT30 is designed for 3-step speed control of 1 to max. 6 fans AT-30 for floor convector height 80mm and AT-45 for floor convector heights 105, 110 and 140 mm



### RV

Relay interface is designed to attach autotransformer AT45, AT30.

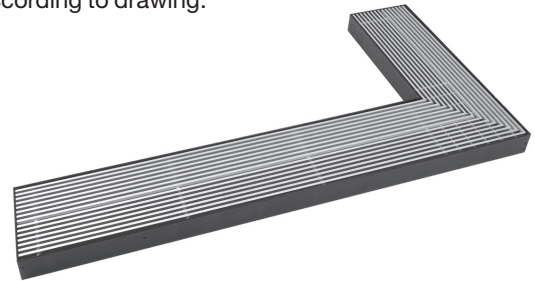
- connection to a room thermostat to control several groups of floor convectors connected to one room thermostat (more than 6 fans in a group)
  - connection to a room thermostat or BMS with 3-step (MIN-MED-MAX) outputs 230 Vac output for fan speed
- In case when 6 or less fans are controlled with a single T01 room thermostat, RV is not needed.



## Other accessories

### 010(xx°) Corner design of convector and grille

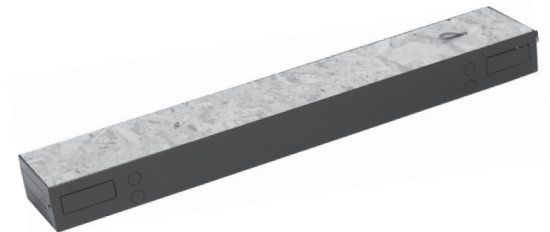
According to drawing.



### 017 Housing thermal insulation

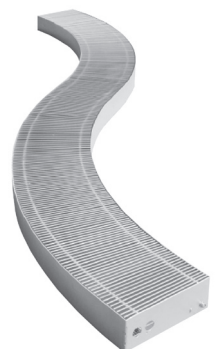


### 018 Wooden protection cover

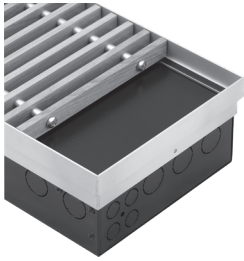


### 020(rxxxx) Round shaped convector and grille

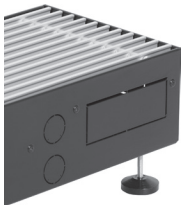
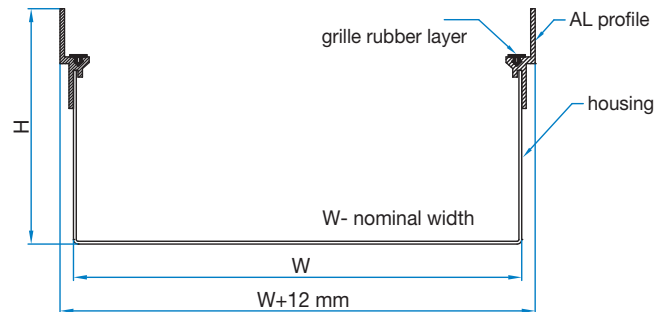
According to drawing with stated desired radius on the wall side, roll-up grilles only.



## 021 Aluminium frame



Note:  
 when ordering accessory 021, length and width of housing increase for 12 mm. The length and width of the grille also change accordingly.



## 028 Level adjusting legs

- Leveling height (distance to the bottom of floor convector) is 20–70 mm.
- Installation possible in models of 105 and 140 mm height only.
- Different project solutions upon request.



## 029 Level adjusting and support legs

- Recommended for installation into false floor.
- Set with reinforced housing bracket.
- Available upon request.



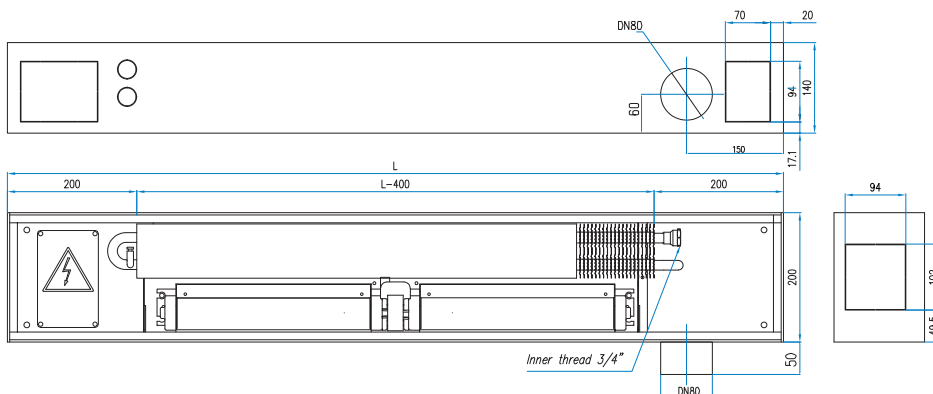
## 032 Connection for fresh air supply without damper

- The connection for fresh air supply is available as a tailored solution, installation details, connection placement and size are to be clarified with the producer for each project individually.

## 033 Connection for fresh air supply with damper

- The connection for fresh air supply is available as a tailored solution, installation details, connection placement and size are to be clarified with the producer for each project individually.

## Example of TKV-13 convector with fresh air supply



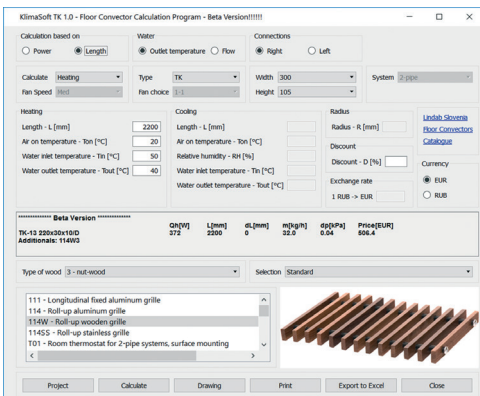
## Special versions

Custom-made floor convectors with non-standard dimensions and technical characteristics can be produced on customer's request and according project specifications.



## 040 Lowered side

- For connecting two or more floor convectors in line. The grille is from one piece limited with maximum grille length.
- Possible lowered side on the right 040R, lowered side on the left 040L, both lowered sides 040R, 040L.



For selection of floor convectors user friendly software is available on request.

## Ordering key

**TKV-13 200 X 30 X 14 / L / 24 / / AT-45, RV, VP2 / / 111D / /**

1      2a x 2b x 2c      3      4      5      6a, 6b      7      8      9

### 1 Type

**TKV-13** Floor convector with forced convection

### 2a Length

**090-300** 900 - 3000 mm (increment 100 mm)

**320-500** 3200 - 5000 mm (increment 200 mm)

### 2b Width

**15** 150 mm (only for H=110 mm)

**20** 200 mm

**30** 300 mm

**40** 400 mm

### 2c Height

**08** 80 mm (only for W=200, 300 mm)

**10** 105 mm

**11** 110 mm (only for W=150 mm)

**14** 140 mm

### 3 Water connection side

**R** Right (convector seen from the room towards the window)

**L** Left (convector seen from the room towards the window)

### 4 Fan designation

**11** Suitable for housing length 900-1100 mm

**12** Suitable for housing length 1200-1600 mm

**23** Suitable for housing length 1700-1900 mm

**24** Suitable for housing length 2000-2400 mm

**35** Suitable for housing length 2500-2700 mm

**36** Suitable for housing length 2800-3600 mm

**48** Suitable for housing length 3800-4600 mm

**510** Suitable for housing length 4800-5000 mm

### 5 Thermostat type

**T01** Room thermostat – basic

**T02** Room thermostat with touch screen

**T14** Electronic LCD room thermostat

**T15** Electronic LCD room thermostat for 3-speed (MIN-MED-MAX) fans with communication

**T20** Electronic LCD room thermostat

**T25** Electronic LCD room thermostat for continuous speed (2..10V) with communication

### 6a Air side control

**AT30** Autotransformer (only for H=80 mm)

**AT45** Autotransformer (only for H=80 mm)

**RV** Relay interface

### 6b Valve type

**01** Manual valve, straight

**02** Manual valve, angular

**03** Shut-off cock, straight

**04** Shut-off cock, angular

**VP2** 2-way valve with ET actuator

**VT2** 3-way valve with ET actuator

### 7 Special housing designs

**010(xx°)** Corner design (example: angle xx°= 90°)

**020(rxxxx)** Round shaped housing (example: radius rxxxx = 2000 mm)

### 8 Grille

**111** Longitudinal aluminium grille, anodised

**114** Roll-up aluminium grille, anodised

**114W** Wooden roll-up grille

**114SS** Stainless steel roll-up grille

## 9 Accessories

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<b>017</b>	Housing thermal insulation
<b>018</b>	Wooden protection cover for increased protection during installation
<b>021</b>	Aluminium decorative frame fixed to the housing
<b>028</b>	Level adjusting legs
<b>029</b>	Level adjusting and support legs, with reinforced housing
<b>032</b>	Fresh air connection without damper
<b>033</b>	Fresh air connection with damper
<b>040R</b>	Lowered side on the right
<b>040L</b>	Lowered side on the right

# Product description, scope of delivery, dimensions

## Floor convectors with forced convection TKV-13

### Housing

- Housing suitable for false floor installation, installation into concrete floors or screed. Operation principle: forced convection.
- The durable, stable box is made of steel sheet powder painted in black color (RAL 9005).
- The adjustable support screws are located inside the housing. Optionally, also support legs mounted outside of the housing are available to increase the housing stability (accessory 029). The support surfaces for the decorative grille in the housing are equipped with a special anti-slip seal that ensures good sound insulation and fit of the grille.
- The connections can be carried out on both side and front housing panel.

### Heat exchanger

- The heat exchanger consists of copper pipes and aluminum fins in natural aluminium color and is placed in the housing on steel support brackets.
- Features:
  - End connection;
    - inner thread 1/2 for models with height 80, 105, 110
    - inner thread 3/4 for models with height 140 (widths 200 and 400);
  - Fitted with a de-airing valve;
  - Suitable for operation with a maximum working pressure of 11 bar (maximum allowed pressure 16 bar) and maximum operating temperature 110 °C.

### Fan

- Tangential fans which enhance convection are installed parallel to the heat exchanger. The fan in the housing must be located on the side of the room.
- The fan has a lightweight protective casing that prevents large and medium particles from reaching the fan impeller.
- The fan is mounted to the body of the convector by using rubber dampers, which eliminate background noise.
- Power is provided by an energy-efficient AC motor 220 V. Optionally also an EC motor 24 V (DC motor) can be installed, the fan is supplied ready for connection. The fans are energy efficient.

### Grille

- As standard, a longitudinal aluminium grille is delivered with the floor convector. The grille is placed on a anti vibration sealing tape for improved sound attenuation. The grille itself consist of 18 mm high profile rods, anodized in natural aluminum color. The effective cross-section is approx. 70 %. Since the grille is made of I-profiles it can be turned over and used equally on both sides.

### Standards

- Heating characteristics are measured acc. European standard EN 442.
- Sound power level  $L_{wA}$  (dB(A)), weighted according to IEC 61672 and calculated in accordance with the recommendation of the EN ISO 3741 standard.
- Quality management system according to latest standard EN ISO 9001.
- Environmental management system according to latest standard EN ISO 14001.

### Operation

- Forced convection floor convectors apply the principle of forced air circulation, maintained both by means of a tangential fan and by natural convection. Cold air enters into the floor convector, warms in the heat exchanger and rises into the room. Increased volume flow rate contributes to uniform distribution of heat in the room and improved indoor comfort. Floor convectors further prevent condensation build-up on glass and inlet of cold outside air.

### Application

- Floor convectors are used as an efficient heating solution for premises with large glazing envelope surfaces such as residential homes, office, public or commercial buildings.

### Dimensions

- 4 convector widths: 150, 200, 300, 400 mm;
- 4 convector heights: 80, 105, 110, 140 mm;
- 32 convector lengths: from 900 mm to 3000 mm length the increment is 100 mm, from 3000 mm to 5000 mm the increment is 200 mm.

### Control accessories

- See description on pages 44-46.





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