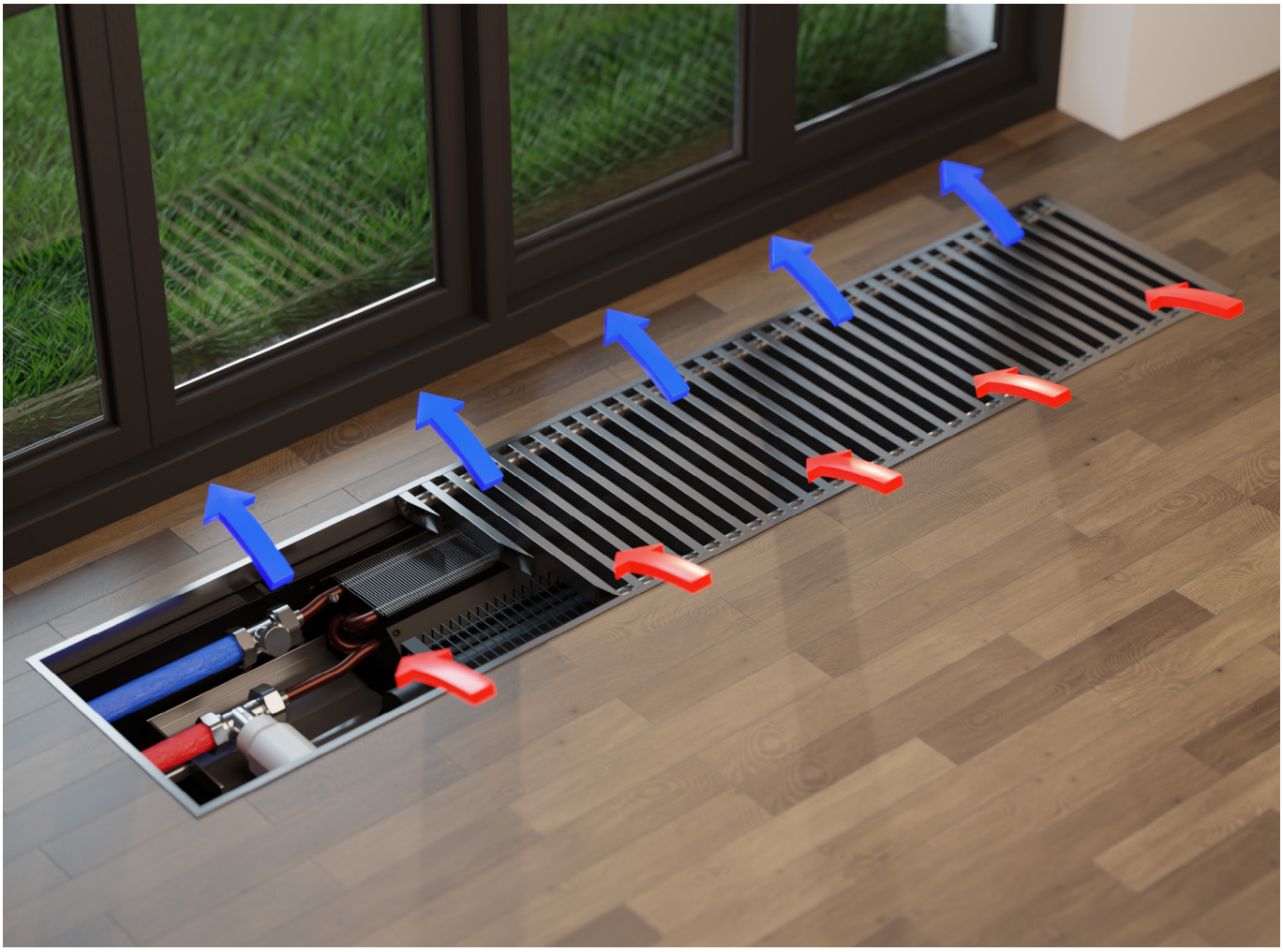
VERANO
GLOBAL

CVK / NCVK

Heating & Cooling products

2025/05



OPTIMAL CLIMATE IN SUMMER AND WINTER

Heating and cooling units can be installed within the floor layer (CVK) or on the wall (NCVK). Thay provide optimal temperature and indor climate throughout the year.

2-pipe vs. 4-pipe system.
2-pipe units operate with a single circuit used for either heating or cooling (like Heat pumps).
4-pipe units require 2 separate systems. One for hot water and one for cold water. Circuits do not mixed to each other.

High-Efficiency Heat Exchanger and EC Fan Technology Equipped with a high-performance heat exchanger suitable for both cooling and heating, as well as an EC fan powered by a safe 24 V DC voltage, Verano heating&-cooling units are ideal for low-temperature systems, such as those working in conjunction with heat pumps.

0-10V fan control signal ensures the unit operates according to the room real-time heating or cooling demand.

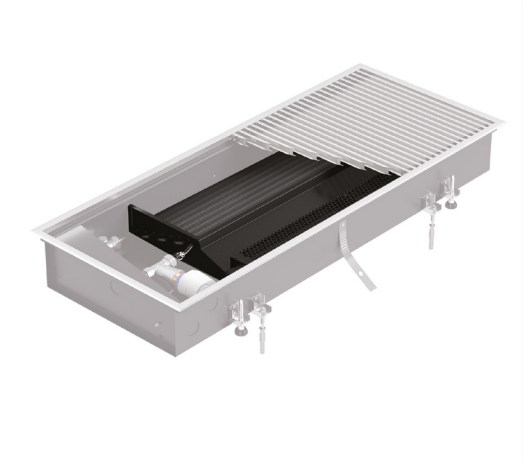
Condensate Drainage System include a condensate drain pan which allows for either gravity or pump condensate removal.

The conditioned air (warm or cool) is directed towards glazed surfaces, forming an air barrier that minimizes heat losses in winter and reduces heat gains in summer. As a result, the indoor environment remains comfortable all year round.

Certified Performance & Smart Control
Heating and cooling capacities of the heating&cooling units have been tested in accordance with EN 16430 standards.

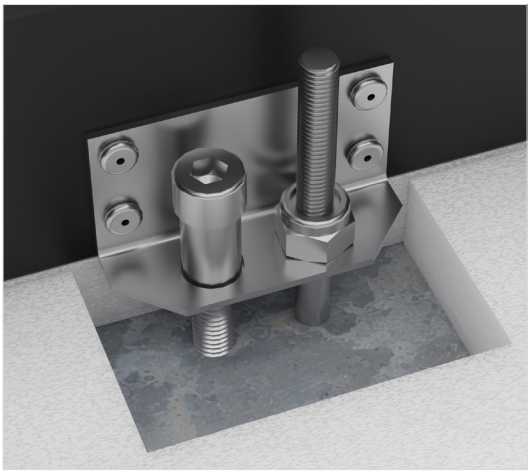
For detailed installation guidelines, please refer to the Installation and Operation section.

ADVANTAGES



HIGHLY EFFICIENT HEAT EXCHANGER AND FAN

Made of aluminium fins and copper tubes highly efficient heat exchanger with the modern EC 24V DC fan maintain thermal comfort in the room.



LEVELLING FEET SYSTEM

Levelling feet allows to adjust the height of the heater in easy and fast way.

DEDICATED CONTROL SYSTEM

Modern room controllers allow for full control of heating&cooling operations.

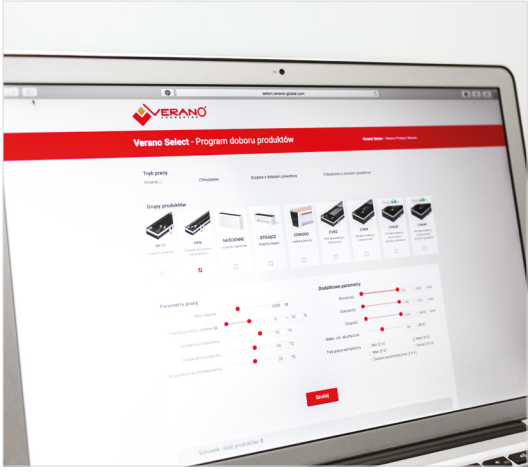
HYDRONIC INSTALLATION BALANCING

Units can be equipped with PICV valves and 0-10 V thermal actuators that regulate installation pressure.

EN EURONORM 16430

EN 16430 STANDARD

heating&cooling units have been tested according to the European Standard EN 16430. That confirms high quality of the products.



VERANO SELECT

This online software allows selecting the proper heating and cooling units according to the requested heating/cooling loads.

HIGH QUALITY

Heating&cooling fan-assisted units are designed for heating and cooling in residential, office, commercial, hotel, sacral, sports, and various other types of buildings.

With advanced calculation and selection software, a wide range of available finishing options, and a tailored approach to each project, VERANO products are the top choice for high-performance climate control solutions.

The reliability and cost-effectiveness of our units are recognized worldwide—CVK units provide superior comfort in luxury apartments, modern office buildings, and industrial-style showrooms around the globe.

Our knowledge and experience in designing heating and cooling devices are built upon years of analysis, testing, and measurements. Ongoing scientific and research collaborations with experts from Warsaw University of Technology, Krakow University of Technology, Lublin University of Technology, the Polish Academy of Sciences, and private research centers enable continuous improvement and performance verification of our products.

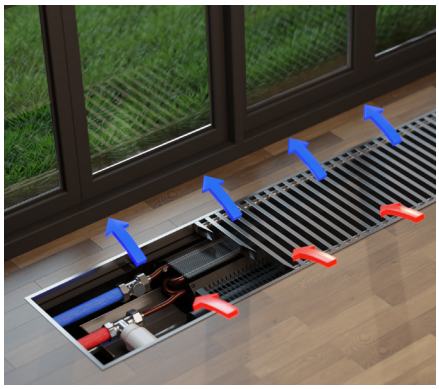
The exceptional technical properties of heating&cooling units have been confirmed by external certfied laboratories, where heating and cooling capacity measurements were conducted in accordance with EN 16430 standards.

Heating and cooling units are manufactured in Poland in accordance with EU regulations.

Verano convectors are characterized by following documents required by the European Union:

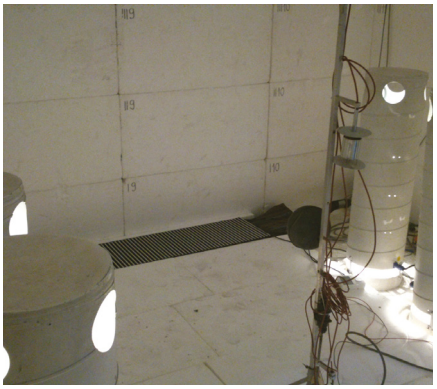
- National declaration of properties in accordance with EN 16430
- EU declaration of properties
- Hygienic certificate PZH.

RESEARCH AND DEVELOPMENT



The new generation of CVK heating&cooling units is optimized for heating and cooling performance and is available in three height options, including the lowest ducted fan coil unit with a total height of just 100 mm.

VERANO heating&cooling units are designed with a focus on eco-friendly heating and cooling sources, such as the increasingly popular heat pumps.



Heating and cooling capacity tests of the heating&cooling units were conducted in a specially designed climate chamber, in compliance with the European standard EN 16430, in collaboration with the HATEST and HLK Stuttgart laboratories.

The sound power level of heating&cooling units with a fan is measured in accordance with European standards EN ISO 3741 or EN ISO 3744 at the VERANO headquarters and subsequently in independent, accredited external laboratories.
Measurements are taken at specific points distributed across a measurement surface surrounding the tested fan coil unit, positioned above a sound-reflecting plane. By utilizing a digital sound analyzer, both broadband measurements and octave band analyses are possible, ensuring precise acoustic performance evaluation.

CVK2 100 mm HIGH

PRODUCT VISUALIZATION

EQUIPMENT

STANDARD EQUIPMENT:

- wcasing made of galvanized steel sheet in black colour - RAL 9005,
- highly efficient cooper-aluminium heat exchanger with air vent,
- modern fan with silent and efficient 24V DC , EC motor,
- connection space cover,
- fan cover with airflow baffle,
- water connection: 1/2" female thread,
- trench struts,
- levelling legs,
- condensate drain pan,
- connection stub for condensate drainage installation (only for gravity option).

ADDITIONAL EQUIPMENT:

- decorative frame (L or F type) made of natural or anodized aluminium or painted in RAL colour
- decorative grille made of natural or anodized aluminium, roll-up or linear type,
- condensate pump,
- assembly protection fibreboard for transporting and installation,
- raised floor kit,
- casing protective film,
- foil sleeve for heat exchanger,
- anti dust filter (requires rasing the trench by 10 mm)
- BMS controls.

DIMENSIONS

DIMENSIONS	[mm]
Trench height (H)	100
Trench bottom width (B)	170
Top width / Grille width (Bk)	204
Trench length (L)	900 ÷ 1900

Non- standard (NS) heater lengths are available on request.

ORDER CODE:

CVK2-10/17/100 (L)

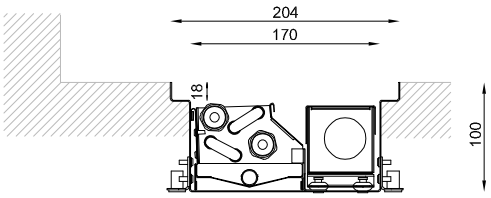
- Trench height: H [cm]
- Trench width: B [cm]
- Trench Length: L [cm]
- Connection side: L- Left /P-Right

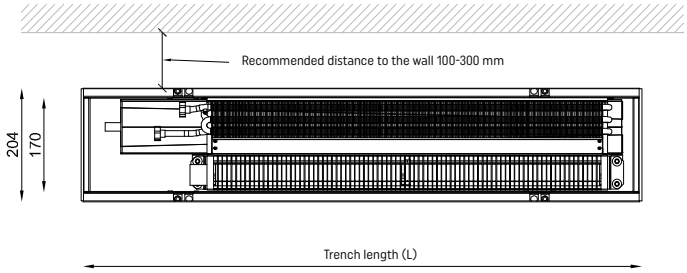
100 mm high

CVK2-10/17/L (L/P)

« ORDER CODE

DIMENSIONS	[mm]
Trench height (H)	100
Trench bottom width (B)	**170**
Top width / Grille width (Bk)	204
Trench length (L)	900 ÷ 1900
CONNECTION	**TYPE**
Connection thread	5/8" female thread + thread reduction to 1/2" female thread
Connection side	Left (L) standard, Right (P) option
ACCESSORIES	**TYPE**
Grille H=18 mm	Roll-up – standard Linear/Modular – optional
Frame	L or F
Additional accessories	• Condensate pump (requires 100mm trench casing extension in length) • Protective fibreboard cover • Mounting kit for raised floors • Adjustable edge trim • Air filter (requires 100mm trench casing extension in high)





Trench length	Operating mode	Heat output for $t_s/t_r/t_i$ °C			Cooling sensible output for $t_s/t_i/\theta_a$ °C		Total cooling output for $t_s/t_r/t_i$ °C		Air volume flow	SFP Value	Sound pressure level	Sound power level	Electric power demand	Fan current	Max. Fan starting current	Number of fan motors
L [mm]	[-]	55/45/20	45/40/20	35/30/20	17/19/28	7/12/27	17/19/28	7/12/27	Q [m³/h]	[Ws/m³]	Lp [dB(A)]	Lw [dB(A)]	P [W]	I [A]	I [A]	[-]
		Φ [W]			Φ [W]		Φ [W]									
900	Min	265	196	110	42	70	42	86	29	30	17	25	0,24	0,01	0,24	1
	Med	516	385	221	97	158	97	190	63	27	20	28	0,48	0,02		
	Max	730	550	320	151	238	151	286	96	36	26	34	0,96	0,04		
	Boost	1046	802	483	242	358	242	429	145	77	39	47	3,12	0,13		
1000	Min	304	225	127	48	80	48	98	33	26	19	27	0,24	0,01	0,26	1
	Med	592	442	253	112	181	112	218	72	36	23	31	0,72	0,03		
	Max	838	631	367	174	273	174	329	109	40	29	37	1,20	0,05		
	Boost	1201	920	554	277	411	277	493	166	83	40	48	3,84	0,16		
1250	Min	344	254	143	52	88	52	108	37	23	19	27	0,24	0,01	0,23	1
	Med	680	506	289	123	202	123	243	80	32	21	29	0,72	0,03		
	Max	975	732	423	195	311	195	374	122	35	24	32	1,20	0,05		
	Boost	1438	1096	652	323	488	323	587	194	58	36	44	3,12	0,13		
1400	Min	389	287	161	59	99	59	121	41	21	19	27	0,24	0,01	0,27	1
	Med	769	572	326	139	227	139	273	90	29	20	28	0,72	0,03		
	Max	1104	828	479	221	352	221	423	138	38	24	32	1,44	0,06		
	Boost	1633	1243	739	365	554	365	666	218	59	36	44	3,60	0,15		
1600	Min	530	392	221	84	140	84	172	58	30	20	28	0,48	0,02	0,48	2
	Med	1032	770	441	194	315	194	379	126	27	23	31	0,96	0,04		
	Max	1460	1099	640	303	476	303	572	192	36	29	37	1,92	0,08		
	Boost	2093	1604	965	483	717	483	859	290	77	42	50	6,24	0,26		
1700	Min	574	424	239	91	151	91	185	62	28	21	29	0,48	0,02	0,50	2
	Med	1117	834	477	210	341	210	410	135	32	25	33	1,20	0,05		
	Max	1580	1189	692	328	515	328	620	205	38	31	39	2,16	0,09		
	Boost	2264	1735	1045	523	776	523	930	311	81	43	51	6,96	0,29		
1900	Min	635	470	264	99	165	99	203	66	26	21	29	0,48	0,02	0,47	2
	Med	1244	927	530	231	376	231	452	143	30	24	32	1,20	0,05		
	Max	1768	1330	772	362	573	362	689	218	36	28	36	2,16	0,09		
	Boost	2561	1958	1174	586	875	586	1051	339	66	41	49	6,24	0,26		

- Standard heating and cooling output [W] compliant to EN-16430.
- Cooling output according to the relative humidity 47%.
- Control voltages for the respective modes of operation: Min – 2 V, Med – 4 V, Max – 6 V, Boost – 10 V.
- Min, Med, Max fan speeds are for continuous operations, the Boost mode is for speed heating or cooling.
- Sound power level according to ISO-3745 standard, sound pressure level measured at distance of 2 m to the heater, in a 100 m3 volume room. Reverb time - 0,5 s, room damping - 8 dB(A).

CORRECTIVE FACTORS FOR 100 mm HIGH CVK2 UNITS

Heat output corrective factors for CVK2 100 mm high units for installation temperatures other than 55/45/20 °C for heating and 17/19/28°C for cooling.

MODE OF OPERATION: HEATING																	
Supply and return temperatures [°C]		MIN				MED				MAX				BOOST			
		Room air temperature [°C]				Room air temperature [°C]				Room air temperature [°C]				Room air temperature [°C]			
t_s	t_r	12	16	20	24	12	16	20	24	12	16	20	24	12	16	20	24
75	70	2,085	1,940	1,797	1,654	2,040	1,903	1,766	1,630	1,997	1,867	1,736	1,606	1,913	1,796	1,678	1,560
	65	1,994	1,851	1,707	1,565	1,955	1,818	1,681	1,544	1,916	1,785	1,655	1,524	1,840	1,722	1,604	1,485
	60	1,904	1,761	1,618	1,476	1,869	1,732	1,595	1,459	1,834	1,704	1,573	1,443	1,767	1,649	1,530	1,410
	55	1,815	1,672	1,529	1,387	1,783	1,647	1,510	1,374	1,753	1,622	1,492	1,361	1,693	1,574	1,455	1,335
70	65	1,904	1,761	1,618	1,476	1,869	1,732	1,595	1,459	1,834	1,704	1,573	1,443	1,767	1,649	1,530	1,410
	60	1,815	1,672	1,529	1,387	1,783	1,647	1,510	1,374	1,753	1,622	1,492	1,361	1,693	1,574	1,455	1,335
	55	1,725	1,582	1,440	1,299	1,698	1,561	1,425	1,289	1,671	1,541	1,410	1,279	1,619	1,500	1,380	1,260
	50	1,636	1,493	1,352	1,210	1,613	1,476	1,340	1,204	1,590	1,459	1,328	1,197	1,545	1,425	1,305	1,184
65	60	1,725	1,582	1,440	1,299	1,698	1,561	1,425	1,289	1,671	1,541	1,410	1,279	1,619	1,500	1,380	1,260
	55	1,636	1,493	1,352	1,210	1,613	1,476	1,340	1,204	1,590	1,459	1,328	1,197	1,545	1,425	1,305	1,184
	50	1,547	1,405	1,263	1,122	1,527	1,391	1,255	1,119	1,508	1,377	1,246	1,115	1,470	1,350	1,229	1,107
	45	1,458	1,316	1,175	1,035	1,442	1,306	1,170	1,034	1,426	1,295	1,164	1,033	1,395	1,275	1,153	1,031
60	55	1,547	1,405	1,263	1,122	1,527	1,391	1,255	1,119	1,508	1,377	1,246	1,115	1,470	1,350	1,229	1,107
	50	1,458	1,316	1,175	1,035	1,442	1,306	1,170	1,034	1,426	1,295	1,164	1,033	1,395	1,275	1,153	1,031
	45	1,369	1,228	1,087	0,948	1,357	1,221	1,085	0,949	1,344	1,213	1,082	0,951	1,320	1,199	1,077	0,954
	40	1,281	1,140	1,000	0,861	1,272	1,136	1,000	0,865	1,263	1,131	1,000	0,868	1,244	1,123	1,000	0,876
55	50	1,369	1,228	1,087	0,948	1,357	1,221	1,085	0,949	1,344	1,213	1,082	0,951	1,320	1,199	1,077	0,954
	45	1,281	1,140	1,000	0,861	1,272	1,136	1,000	0,865	1,263	1,131	1,000	0,868	1,244	1,123	1,000	0,876
	40	1,193	1,052	0,913	0,774	1,187	1,051	0,915	0,780	1,181	1,049	0,918	0,786	1,169	1,046	0,923	0,798
	35	1,105	0,965	0,826	0,688	1,102	0,966	0,831	0,696	1,099	0,967	0,835	0,703	1,092	0,969	0,845	0,719
50	45	1,193	1,052	0,913	0,774	1,187	1,051	0,915	0,780	1,181	1,049	0,918	0,786	1,169	1,046	0,923	0,798
	40	1,105	0,965	0,826	0,688	1,102	0,966	0,831	0,696	1,099	0,967	0,835	0,703	1,092	0,969	0,845	0,719
	35	1,017	0,878	0,740	0,603	1,017	0,882	0,746	0,612	1,016	0,885	0,753	0,621	1,015	0,892	0,766	0,639
45	40	1,017	0,878	0,740	0,603	1,017	0,882	0,746	0,612	1,016	0,885	0,753	0,621	1,015	0,892	0,766	0,639
	35	0,930	0,792	0,654	0,518	0,932	0,797	0,662	0,528	0,934	0,802	0,670	0,538	0,938	0,813	0,687	0,559
40	35	0,844	0,705	0,569	0,433	0,848	0,713	0,578	0,444	0,852	0,720	0,588	0,455	0,860	0,735	0,607	0,478
	30	0,757	0,620	0,484	0,350	0,763	0,629	0,494	0,361	0,769	0,637	0,505	0,372	0,782	0,655	0,527	0,395
35	30	0,671	0,535	0,400	0,267	0,679	0,545	0,411	0,277	0,687	0,555	0,422	0,288	0,703	0,575	0,445	0,311

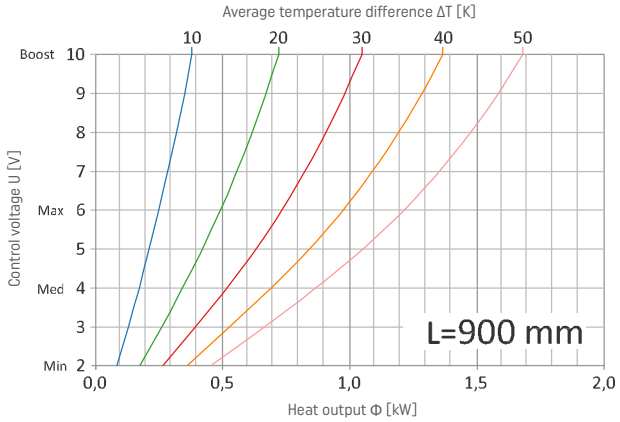
CORRECTIVE FACTORS FOR 100 mm HIGH CVK2 UNITS

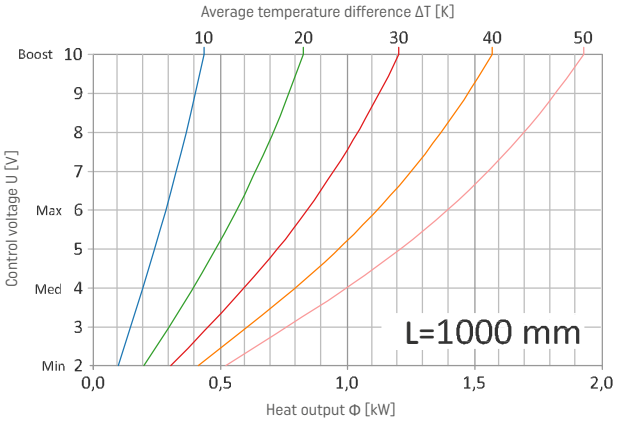
Heat output corrective factors for CVK2 100 mm high units for installation temperatures other than 55/45/20 °C for heating and 17/19/28°C for cooling.

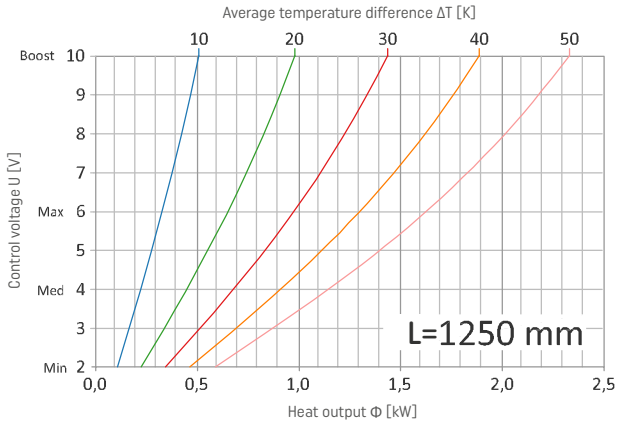
MODE OF OPERATION: COOLING																					
Supply and return temperatures [°C]		MIN					MED					MAX					BOOST				
		Room air temperature [°C]					Room air temperature [°C]					Room air temperature [°C]					Room air temperature [°C]				
t_s	t_r	24	25	26	27	28	24	25	26	27	28	24	25	26	27	28	24	25	26	27	28
6	8	1,625	1,712	1,799	1,886	1,972	1,580	1,660	1,739	1,818	1,896	1,537	1,609	1,681	1,753	1,823	1,453	1,513	1,572	1,629	1,686
	9	1,581	1,669	1,756	1,842	1,929	1,540	1,620	1,700	1,779	1,857	1,500	1,573	1,646	1,717	1,788	1,423	1,483	1,542	1,601	1,658
	10	1,537	1,625	1,712	1,799	1,886	1,500	1,580	1,660	1,739	1,818	1,463	1,537	1,609	1,681	1,753	1,392	1,453	1,513	1,572	1,629
	11	1,756	1,842	1,929	2,015	2,100	1,700	1,779	1,857	1,935	2,012	1,646	1,717	1,788	1,858	1,928	1,362	1,423	1,483	1,542	1,601
	12	1,449	1,537	1,625	1,712	1,799	1,419	1,500	1,580	1,660	1,739	1,389	1,463	1,537	1,609	1,681	1,331	1,392	1,453	1,513	1,572
7	9	1,537	1,625	1,712	1,799	1,886	1,500	1,580	1,660	1,739	1,818	1,463	1,537	1,609	1,681	1,753	1,392	1,453	1,513	1,572	1,629
	10	1,493	1,581	1,669	1,756	1,842	1,459	1,540	1,620	1,700	1,779	1,426	1,500	1,573	1,646	1,717	1,362	1,423	1,483	1,542	1,601
	11	1,449	1,537	1,625	1,712	1,799	1,419	1,500	1,580	1,660	1,739	1,389	1,463	1,537	1,609	1,681	1,331	1,392	1,453	1,513	1,572
	12	1,712	1,799	1,886	1,972	2,057	1,660	1,739	1,818	1,896	1,974	1,609	1,681	1,753	1,823	1,893	1,299	1,362	1,423	1,483	1,542
	13	1,361	1,449	1,537	1,625	1,712	1,337	1,419	1,500	1,580	1,660	1,313	1,389	1,463	1,537	1,609	1,267	1,331	1,392	1,453	1,513
8	10	1,449	1,537	1,625	1,712	1,799	1,419	1,500	1,580	1,660	1,739	1,389	1,463	1,537	1,609	1,681	1,331	1,392	1,453	1,513	1,572
	11	1,405	1,493	1,581	1,669	1,756	1,378	1,459	1,540	1,620	1,700	1,351	1,426	1,500	1,573	1,646	1,299	1,362	1,423	1,483	1,542
	12	1,361	1,449	1,537	1,625	1,712	1,337	1,419	1,500	1,580	1,660	1,313	1,389	1,463	1,537	1,609	1,267	1,331	1,392	1,453	1,513
	13	1,316	1,405	1,493	1,581	1,669	1,295	1,378	1,459	1,540	1,620	1,275	1,351	1,426	1,500	1,573	1,235	1,299	1,362	1,423	1,483
10	12	1,271	1,361	1,449	1,537	1,625	1,254	1,337	1,419	1,500	1,580	1,237	1,313	1,389	1,463	1,537	1,203	1,267	1,331	1,392	1,453
	13	1,227	1,316	1,405	1,493	1,581	1,212	1,295	1,378	1,459	1,540	1,198	1,275	1,351	1,426	1,500	1,170	1,235	1,299	1,362	1,423
	14	1,182	1,271	1,361	1,449	1,537	1,170	1,254	1,337	1,419	1,500	1,159	1,237	1,313	1,389	1,463	1,137	1,203	1,267	1,331	1,392
	15	1,136	1,227	1,316	1,405	1,493	1,128	1,212	1,295	1,378	1,459	1,120	1,198	1,275	1,351	1,426	1,103	1,170	1,235	1,299	1,362
12	14	1,091	1,182	1,271	1,361	1,449	1,086	1,170	1,254	1,337	1,419	1,080	1,159	1,237	1,313	1,389	1,069	1,137	1,203	1,267	1,331
	15	1,046	1,136	1,227	1,316	1,405	1,043	1,128	1,212	1,295	1,378	1,040	1,120	1,198	1,275	1,351	1,035	1,103	1,170	1,235	1,299
	16	1,000	1,091	1,182	1,271	1,361	1,000	1,086	1,170	1,254	1,337	1,000	1,080	1,159	1,237	1,313	1,000	1,069	1,137	1,203	1,267
	17	0,954	1,046	1,136	1,227	1,316	0,957	1,043	1,128	1,212	1,295	0,959	1,040	1,120	1,198	1,275	0,965	1,035	1,103	1,170	1,235
16	18	0,722	0,815	0,908	1,000	1,091	0,735	0,825	0,913	1,000	1,086	0,749	0,835	0,918	1,000	1,080	0,778	0,855	0,928	1,000	1,069
	19	0,674	0,769	0,862	0,954	1,046	0,690	0,780	0,869	0,957	1,043	0,706	0,792	0,877	0,959	1,040	0,738	0,817	0,892	0,965	1,035
17	19	0,627	0,722	0,815	0,908	1,000	0,644	0,735	0,825	0,913	1,000	0,661	0,749	0,835	0,918	1,000	0,698	0,778	0,855	0,928	1,000
	20	0,579	0,674	0,769	0,862	0,954	0,597	0,690	0,780	0,869	0,957	0,616	0,706	0,792	0,877	0,959	0,656	0,738	0,817	0,892	0,965
19	21	0,432	0,530	0,627	0,722	0,815	0,454	0,550	0,644	0,735	0,825	0,476	0,571	0,661	0,749	0,835	0,524	0,614	0,698	0,778	0,855
	22	0,383	0,482	0,579	0,674	0,769	0,404	0,502	0,597	0,690	0,780	0,427	0,524	0,616	0,706	0,792	0,477	0,570	0,656	0,738	0,817

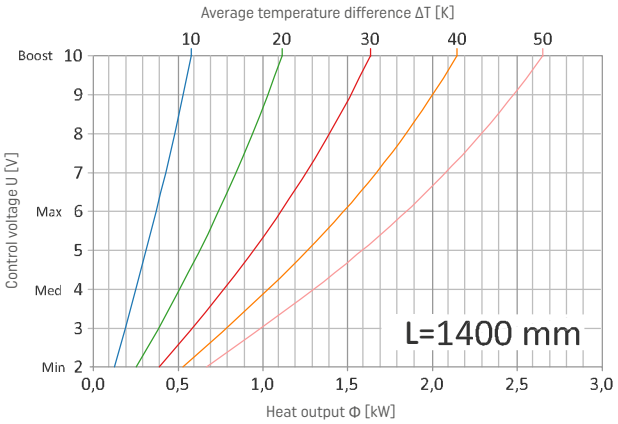
HEATING OUTPUT OF CVK2-10/17/L

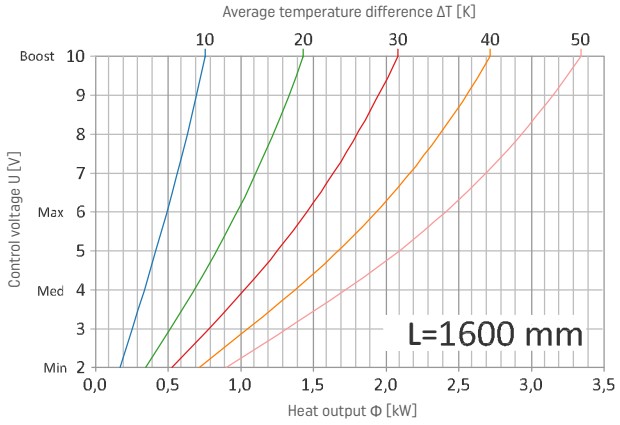
The graphs present how heat output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].

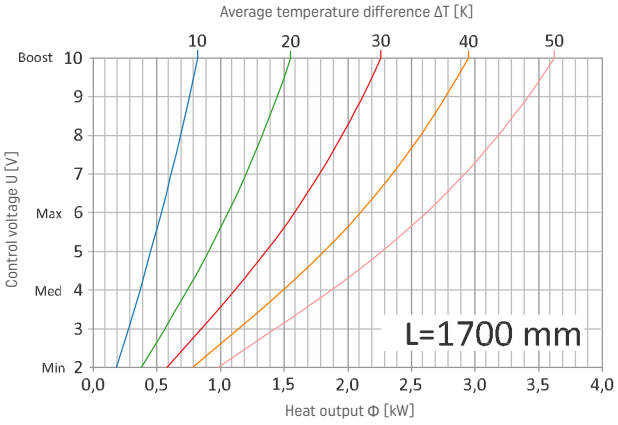


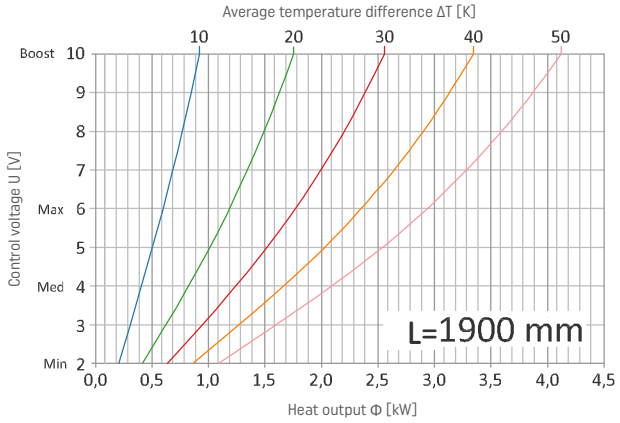






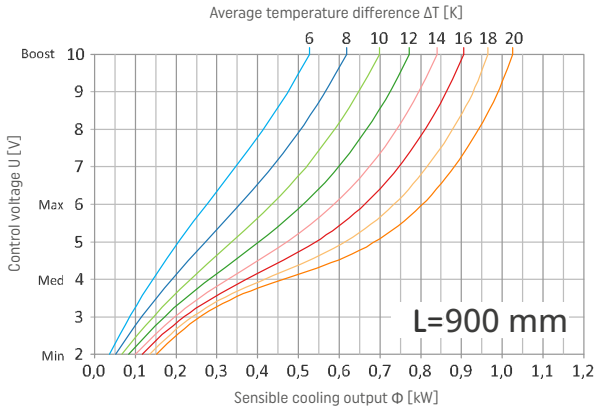


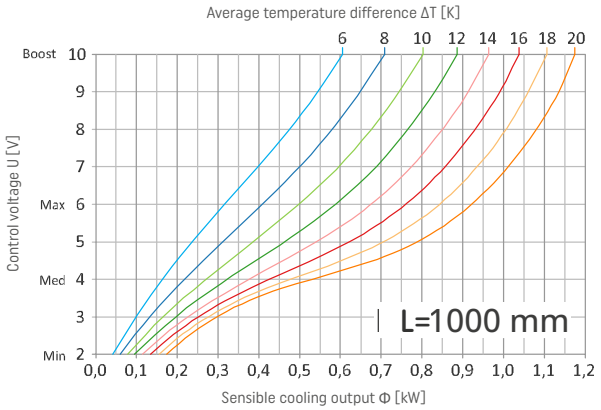


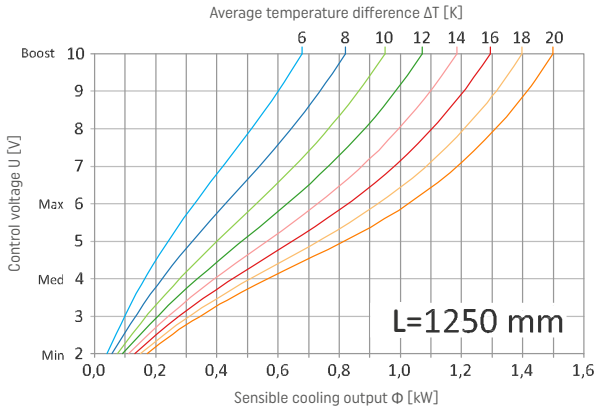


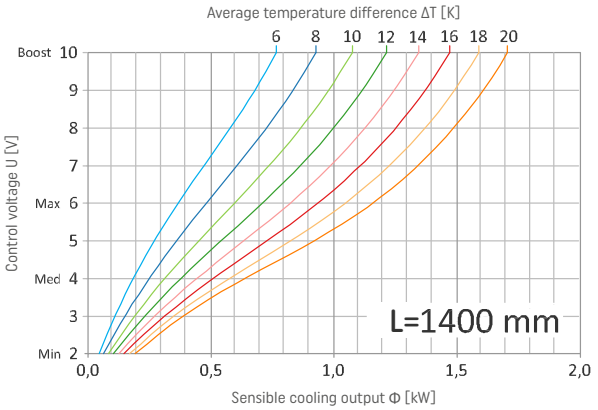
COOLING OUTPUT OF CVK2-10/17/L

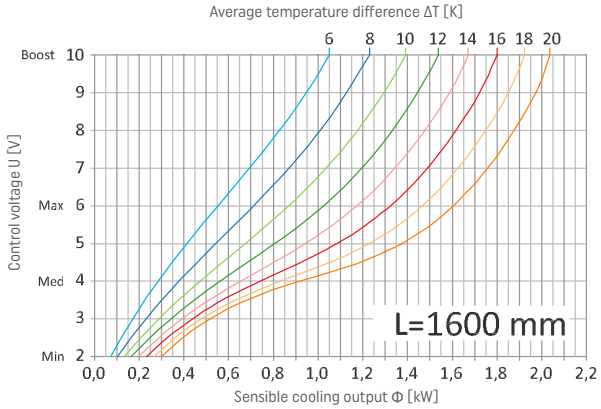
The graphs present how heat output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].

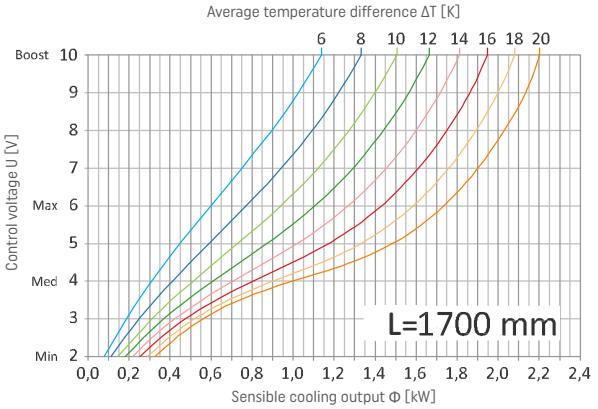


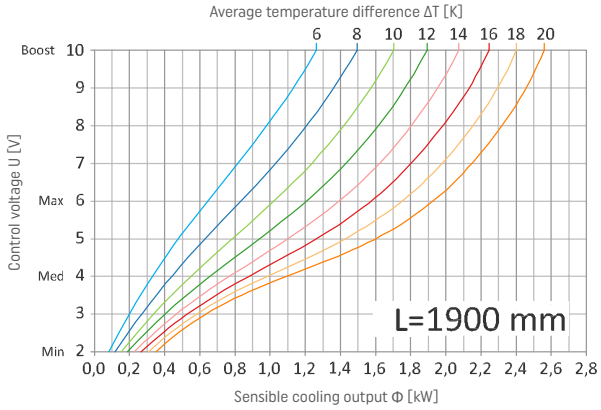












CVK2 140 mm HIGH

PRODUCT VISUALIZATION

EQUIPMENT

STANDARD EQUIPMENT:

- w casing made of galvanized steel sheet in black colour - RAL 9005,
- highly efficient cooper-aluminium heat exchanger with air vent,
- modern fan with silent and efficient 24V DC, EC motor,
- connection space cover,
- fan cover with airflow baffle,
- water connection: 3/4" female thread,
- trench struts,
- levelling legs,
- condensate drain pan,
- connection stub for condensate drainage installation (only for gravity option).

ADDITIONAL EQUIPMENT:

- decorative frame (L or F type) made of natural or anodized aluminium or painted in RAL colour,
- decorative grille made of natural or anodized aluminium, roll-up or linear type,
- condensate pump,
- assembly protection fibreboard for transporting and installation,
- raised floor kit,
- casing protective film,
- foil sleeve for heat exchanger,
- anti dust filter (requires rasing the trench by 10 mm),
- BMS controls.

DIMENSIONS

DIMENSIONS	[mm]
Trench height (H)	140
Trench bottom width (B)	290
Top width / Grille width (Bk)	324
Trench length (L)	800 ÷ 3250

Non- standard (NS) heater lengths are available on request.

ORDER CODE:

CVK2-14/29/100 (L)

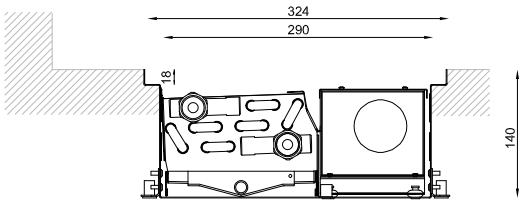
Trench height: (H) [cm]
Trench width: (B) [cm]
Trench Length: Lk [cm]
Connection side: L- Left / P-Right

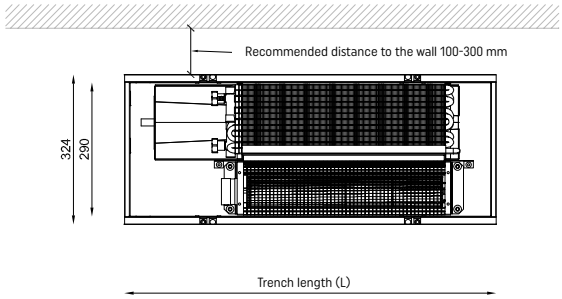
140 mm HIGH

CVK2-14/29/L (L/P)

ORDER CODE

DIMENSIONS	[mm]
Trench height (H)	140
Trench bottom width (B)	**290**
Top width / Grille width (Bk)	324
Trench length (L)	800 ÷ 3250
CONNECTION	**TYPE**
Connection thread	¾" female thread
Connection side	Left (L) standard, Right (P) option
ACCESSORIES	**TYPE**
Grille high 18 mm	Roll-up – standard Linear/Modular – optional
Frame	L or F
Additional accessories	• Condensate pump (requires 100mm trench casing extension in length) • Protective fibreboard cover • Mounting kit for raised floors • Adjustable edge trim • Air filter (requires 100mm trench casing extension in high)





Trench length	Operating mode	Heat output for $t_s/t_r/t_i$ °C			Cooling sensible output for $t_s/t_i/\theta_a$ °C		Total cooling output for $t_s/t_r/t_i$ °C		Air volume flow	SFP Value	Sound pressure level	Sound power level	Electric power demand	Fan current	Max. Fan starting current	Number of fan motors
L [mm]	[-]	55/45/20	45/40/20	35/30/20	17/19/28	7/12/27	17/19/28	7/12/27	Q [m³/h]	[Ws/m³]	Lp [dB(A)]	Lw [dB(A)]	P [W]	I [A]	I [A]	[-]
		Φ [W]			Φ [W]		Φ [W]									
800	Min	480	352	195	66	120	66	154	52	66	17	25	1,0	0,04	0,7	1
	Med	964	713	401	156	267	156	321	113	61	23	31	1,9	0,08		
	Max	1396	1041	594	233	378	233	435	174	79	34	42	3,8	0,16		
	Boost	2078	1573	926	326	472	326	527	276	163	49	57	12,5	0,52		
1000	Min	684	502	278	94	171	94	219	72	48	17	25	1,0	0,04	0,8	1
	Med	1374	1016	572	222	381	222	458	158	44	23	31	1,9	0,08		
	Max	1990	1483	847	332	539	332	620	242	64	34	42	4,3	0,18		
	Boost	2962	2242	1319	464	673	464	752	284	170	50	58	13,4	0,56		
1250	Min	970	712	395	134	243	134	313	101	43	19	27	1,2	0,05	1,3	1
	Med	1951	1443	812	315	541	315	653	221	39	24	32	2,4	0,10		
	Max	2824	2105	1202	471	764	471	880	338	59	36	44	5,5	0,23		
	Boost	4204	3183	1872	659	955	659	1067	536	119	51	59	17,8	0,74		
1550	Min	1300	954	529	180	326	180	420	124	56	20	28	1,9	0,08	1,5	2
	Med	2614	1933	1087	422	724	422	932	271	51	26	34	3,8	0,16		
	Max	3784	2820	1610	631	1024	631	1318	416	71	37	45	8,2	0,34		
	Boost	5632	4264	2509	883	1279	883	1646	660	141	53	61	25,9	1,08		
1750	Min	1504	1104	612	208	377	208	485	144	48	20	28	1,9	0,08	1,6	2
	Med	3024	2236	1258	488	838	488	1078	316	44	26	34	3,8	0,16		
	Max	4378	3263	1863	731	1185	731	1525	484	64	37	45	8,6	0,36		
	Boost	6516	4933	2902	1022	1480	1022	1904	768	126	53	61	26,9	1,12		
2000	Min	1791	1314	728	247	449	247	578	173	45	21	29	2,2	0,09	2,1	2
	Med	3600	2662	1498	581	997	581	1284	379	41	27	35	4,3	0,18		
	Max	5212	3885	2218	870	1411	870	1815	580	61	38	46	9,8	0,41		
	Boost	7758	5874	3455	1216	1762	1216	2267	920	122	53	61	31,2	1,30		
2250	Min	2077	1524	845	287	521	287	671	202	43	22	30	2,4	0,10	2,6	2
	Med	4176	3089	1737	674	1157	674	1489	442	39	27	35	4,8	0,20		
	Max	6047	4507	2573	1009	1636	1009	2106	676	59	39	47	11,0	0,46		
	Boost	9000	6814	4009	1411	2044	1411	2630	1072	119	54	62	35,5	1,48		
2500	Min	2324	1706	945	321	583	321	750	216	48	22	30	2,9	0,12	2,4	3
	Med	4673	3456	1944	754	1295	754	1666	474	44	28	36	5,8	0,24		
	Max	6765	5043	2879	1129	1831	1129	2356	726	64	39	47	13,0	0,54		
	Boost	10071	7624	4485	1579	2287	1579	2943	1152	126	55	63	40,3	1,68		
2750	Min	2611	1916	1062	361	655	361	843	245	46	23	31	3,1	0,13	2,9	3
	Med	5249	3882	2184	847	1454	847	1872	537	42	28	36	6,2	0,26		
	Max	7600	5665	3235	1268	2057	1268	2647	822	62	40	48	14,2	0,59		
	Boost	11313	8564	5038	1774	2569	1774	3306	1304	123	55	63	44,6	1,86		
3000	Min	2898	2126	1178	400	727	400	935	274	44	23	31	3,4	0,14	3,4	3
	Med	5826	4308	2424	940	1614	940	2077	600	40	29	37	6,7	0,28		
	Max	8434	6287	3590	1407	2283	1407	2938	918	60	40	48	15,4	0,64		
	Boost	12555	9505	5592	1968	2851	1968	3669	1456	121	55	63	49,0	2,04		
3250	Min	3185	2337	1295	440	799	440	1028	303	43	24	32	3,6	0,15	3,9	3
	Med	6402	4735	2663	1033	1774	1033	2283	663	39	29	37	7,2	0,30		
	Max	9269	6909	3945	1547	2508	1547	3228	1014	59	40	48	16,6	0,69		
	Boost	13797	10445	6145	2163	3133	2163	4032	1608	119	55	63	53,3	2,22		

- Standard heating and cooling output [W] compliant to EN-16430.
- Cooling output according to the relative humidity 47%.
- Control voltages for the respective modes of operation: Min – 2 V, Med – 4 V, Max – 6 V, Boost – 10 V.
- Min, Med, Max fan speeds are for continuous operations, the Boost mode is for speed heating or cooling.
- Sound power level according to ISO-3745 standard, sound pressure level measured at distance of 2 m to the heater, in a 100 m3 volume room. Reverb time - 0,5 s, room damping - 8 dB(A).

CORRECTIVE FACTORS FOR 140 mm HIGH CVK2 UNITS

Heat output corrective factors for CVK2 140 mm high units for installation temperatures other than 55/45/20 °C for heating and 17/19/28°C for cooling.

MODE OF OPERATION: HEATING																	
Supply and return temperatures [°C]		MIN				MED				MAX				BOOST			
		Room air temperature [°C]				Room air temperature [°C]				Room air temperature [°C]				Room air temperature [°C]			
t_s	t_r	12	16	20	24	12	16	20	24	12	16	20	24	12	16	20	24
75	70	2,127	1,976	1,826	1,677	2,087	1,942	1,798	1,655	2,047	1,909	1,771	1,633	1,971	1,845	1,718	1,591
	65	2,033	1,882	1,733	1,584	1,997	1,852	1,709	1,566	1,961	1,823	1,685	1,548	1,892	1,766	1,639	1,512
	60	1,939	1,789	1,640	1,492	1,906	1,763	1,619	1,477	1,875	1,737	1,599	1,462	1,813	1,687	1,560	1,432
	55	1,845	1,695	1,547	1,399	1,816	1,673	1,530	1,388	1,788	1,651	1,513	1,376	1,734	1,607	1,480	1,353
70	65	1,939	1,789	1,640	1,492	1,906	1,763	1,619	1,477	1,875	1,737	1,599	1,462	1,813	1,687	1,560	1,432
	60	1,845	1,695	1,547	1,399	1,816	1,673	1,530	1,388	1,788	1,651	1,513	1,376	1,734	1,607	1,480	1,353
	55	1,751	1,602	1,455	1,308	1,727	1,583	1,441	1,299	1,702	1,565	1,427	1,290	1,655	1,528	1,401	1,273
	50	1,658	1,510	1,363	1,217	1,637	1,494	1,352	1,211	1,616	1,479	1,342	1,205	1,576	1,448	1,321	1,193
65	60	1,751	1,602	1,455	1,308	1,727	1,583	1,441	1,299	1,702	1,565	1,427	1,290	1,655	1,528	1,401	1,273
	55	1,658	1,510	1,363	1,217	1,637	1,494	1,352	1,211	1,616	1,479	1,342	1,205	1,576	1,448	1,321	1,193
	50	1,565	1,418	1,271	1,126	1,548	1,405	1,264	1,123	1,530	1,393	1,256	1,119	1,496	1,369	1,241	1,113
	45	1,473	1,326	1,180	1,036	1,459	1,317	1,175	1,035	1,445	1,307	1,171	1,034	1,417	1,289	1,161	1,032
60	55	1,565	1,418	1,271	1,126	1,548	1,405	1,264	1,123	1,530	1,393	1,256	1,119	1,496	1,369	1,241	1,113
	50	1,473	1,326	1,180	1,036	1,459	1,317	1,175	1,035	1,445	1,307	1,171	1,034	1,417	1,289	1,161	1,032
	45	1,381	1,235	1,090	0,946	1,370	1,228	1,088	0,948	1,359	1,222	1,085	0,949	1,337	1,209	1,081	0,952
	40	1,290	1,144	1,000	0,857	1,281	1,140	1,000	0,861	1,273	1,136	1,000	0,864	1,257	1,129	1,000	0,871
55	50	1,381	1,235	1,090	0,946	1,370	1,228	1,088	0,948	1,359	1,222	1,085	0,949	1,337	1,209	1,081	0,952
	45	1,290	1,144	1,000	0,857	1,281	1,140	1,000	0,861	1,273	1,136	1,000	0,864	1,257	1,129	1,000	0,871
	40	1,199	1,054	0,911	0,769	1,193	1,053	0,913	0,774	1,188	1,051	0,915	0,779	1,177	1,048	0,919	0,790
	35	1,108	0,964	0,822	0,681	1,105	0,965	0,826	0,688	1,102	0,966	0,830	0,695	1,097	0,968	0,838	0,708
50	45	1,199	1,054	0,911	0,769	1,193	1,053	0,913	0,774	1,188	1,051	0,915	0,779	1,177	1,048	0,919	0,790
	40	1,108	0,964	0,822	0,681	1,105	0,965	0,826	0,688	1,102	0,966	0,830	0,695	1,097	0,968	0,838	0,708
	35	1,018	0,875	0,734	0,594	1,017	0,878	0,740	0,602	1,017	0,881	0,745	0,610	1,016	0,887	0,757	0,627
45	40	1,018	0,875	0,734	0,594	1,017	0,878	0,740	0,602	1,017	0,881	0,745	0,610	1,016	0,887	0,757	0,627
	35	0,928	0,787	0,646	0,508	0,930	0,791	0,654	0,517	0,932	0,796	0,661	0,526	0,936	0,806	0,676	0,544
40	35	0,840	0,699	0,560	0,424	0,843	0,705	0,568	0,433	0,847	0,712	0,577	0,442	0,855	0,725	0,594	0,462
	30	0,751	0,612	0,474	0,340	0,757	0,619	0,483	0,349	0,762	0,627	0,493	0,359	0,773	0,643	0,512	0,379
35	30	0,664	0,526	0,390	0,257	0,671	0,534	0,399	0,266	0,678	0,543	0,409	0,276	0,692	0,561	0,429	0,295

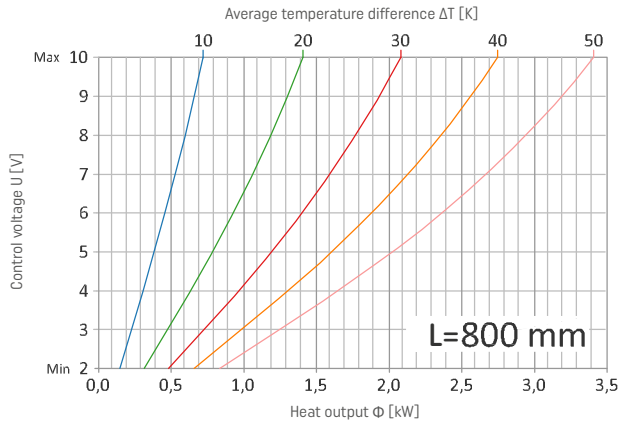
CORRECTIVE FACTORS FOR 140 mm HIGH CVK2 UNITS

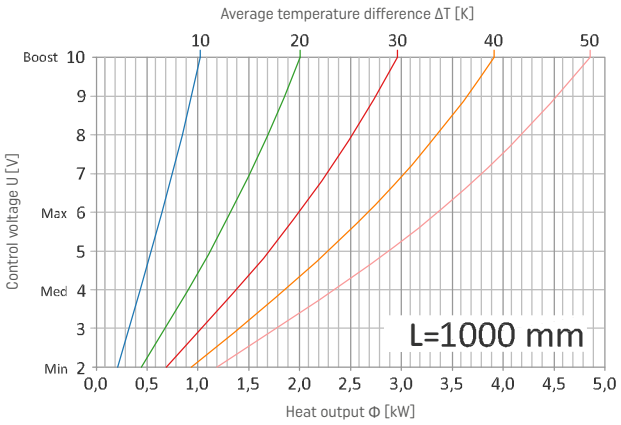
Heat output corrective factors for CVK2 140 mm high units for installation temperatures other than 55/45/20 °C for heating and 17/19/28 °C for cooling.

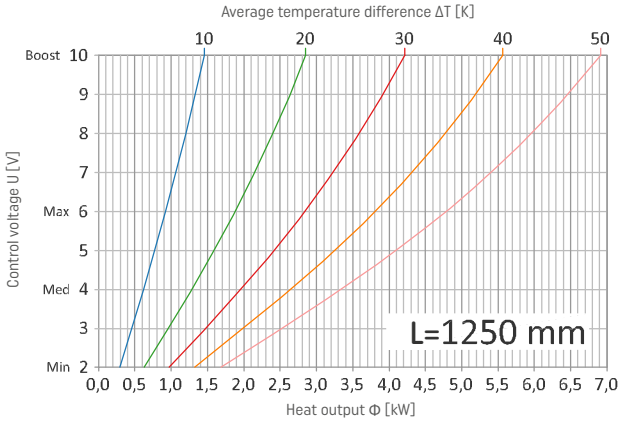
MODE OF OPERATION: COOLING																					
Supply and return temperatures [°C]		MIN					MED					MAX					BOOST				
		Room air temperature [°C]					Room air temperature [°C]					Room air temperature [°C]					Room air temperature [°C]				
t_s	t_r	24	25	26	27	28	24	25	26	27	28	24	25	26	27	28	24	25	26	27	28
6	8	1,864	1,993	2,123	2,255	2,388	1,715	1,818	1,920	2,023	2,126	1,578	1,658	1,737	1,815	1,893	1,337	1,379	1,421	1,461	1,500
	9	1,799	1,928	2,058	2,189	2,321	1,664	1,766	1,869	1,972	2,074	1,538	1,618	1,697	1,776	1,854	1,315	1,358	1,400	1,441	1,481
	10	1,736	1,864	1,993	2,123	2,255	1,612	1,715	1,818	1,920	2,023	1,498	1,578	1,658	1,737	1,815	1,293	1,337	1,379	1,421	1,461
	11	2,058	2,189	2,321	2,455	2,589	1,869	1,972	2,074	2,177	2,280	1,697	1,776	1,854	1,931	2,008	1,271	1,315	1,358	1,400	1,441
	12	1,609	1,736	1,864	1,993	2,123	1,510	1,612	1,715	1,818	1,920	1,417	1,498	1,578	1,658	1,737	1,248	1,293	1,337	1,379	1,421
7	9	1,736	1,864	1,993	2,123	2,255	1,612	1,715	1,818	1,920	2,023	1,498	1,578	1,658	1,737	1,815	1,293	1,337	1,379	1,421	1,461
	10	1,672	1,799	1,928	2,058	2,189	1,561	1,664	1,766	1,869	1,972	1,458	1,538	1,618	1,697	1,776	1,271	1,315	1,358	1,400	1,441
	11	1,609	1,736	1,864	1,993	2,123	1,510	1,612	1,715	1,818	1,920	1,417	1,498	1,578	1,658	1,737	1,248	1,293	1,337	1,379	1,421
	12	1,993	2,123	2,255	2,388	2,522	1,818	1,920	2,023	2,126	2,229	1,658	1,737	1,815	1,893	1,970	1,225	1,271	1,315	1,358	1,400
	13	1,484	1,609	1,736	1,864	1,993	1,408	1,510	1,612	1,715	1,818	1,336	1,417	1,498	1,578	1,658	1,202	1,248	1,293	1,337	1,379
8	10	1,609	1,736	1,864	1,993	2,123	1,510	1,612	1,715	1,818	1,920	1,417	1,498	1,578	1,658	1,737	1,248	1,293	1,337	1,379	1,421
	11	1,546	1,672	1,799	1,928	2,058	1,459	1,561	1,664	1,766	1,869	1,376	1,458	1,538	1,618	1,697	1,225	1,271	1,315	1,358	1,400
	12	1,484	1,609	1,736	1,864	1,993	1,408	1,510	1,612	1,715	1,818	1,336	1,417	1,498	1,578	1,658	1,202	1,248	1,293	1,337	1,379
	13	1,422	1,546	1,672	1,799	1,928	1,357	1,459	1,561	1,664	1,766	1,294	1,376	1,458	1,538	1,618	1,178	1,225	1,271	1,315	1,358
10	12	1,360	1,484	1,609	1,736	1,864	1,306	1,408	1,510	1,612	1,715	1,253	1,336	1,417	1,498	1,578	1,154	1,202	1,248	1,293	1,337
	13	1,299	1,422	1,546	1,672	1,799	1,255	1,357	1,459	1,561	1,664	1,212	1,294	1,376	1,458	1,538	1,130	1,178	1,225	1,271	1,315
	14	1,238	1,360	1,484	1,609	1,736	1,204	1,306	1,408	1,510	1,612	1,170	1,253	1,336	1,417	1,498	1,105	1,154	1,202	1,248	1,293
	15	1,178	1,299	1,422	1,546	1,672	1,153	1,255	1,357	1,459	1,561	1,128	1,212	1,294	1,376	1,458	1,079	1,130	1,178	1,225	1,271
12	14	1,118	1,238	1,360	1,484	1,609	1,102	1,204	1,306	1,408	1,510	1,085	1,170	1,253	1,336	1,417	1,054	1,105	1,154	1,202	1,248
	15	1,059	1,178	1,299	1,422	1,546	1,051	1,153	1,255	1,357	1,459	1,043	1,128	1,212	1,294	1,376	1,027	1,079	1,130	1,178	1,225
	16	1,000	1,118	1,238	1,360	1,484	1,000	1,102	1,204	1,306	1,408	1,000	1,085	1,170	1,253	1,336	1,000	1,054	1,105	1,154	1,202
	17	0,942	1,059	1,178	1,299	1,422	0,949	1,051	1,153	1,255	1,357	0,957	1,043	1,128	1,212	1,294	0,972	1,027	1,079	1,130	1,178
16	18	0,658	0,770	0,884	1,000	1,118	0,696	0,797	0,898	1,000	1,102	0,736	0,825	0,913	1,000	1,085	0,823	0,885	0,944	1,000	1,054
	19	0,603	0,714	0,826	0,942	1,059	0,645	0,746	0,848	0,949	1,051	0,690	0,781	0,870	0,957	1,043	0,790	0,854	0,915	0,972	1,027
17	19	0,549	0,658	0,770	0,884	1,000	0,595	0,696	0,797	0,898	1,000	0,644	0,736	0,825	0,913	1,000	0,756	0,823	0,885	0,944	1,000
	20	0,496	0,603	0,714	0,826	0,942	0,545	0,645	0,746	0,848	0,949	0,598	0,690	0,781	0,870	0,957	0,721	0,790	0,854	0,915	0,972
19	21	0,341	0,443	0,549	0,658	0,770	0,394	0,494	0,595	0,696	0,797	0,455	0,551	0,644	0,736	0,825	0,606	0,684	0,756	0,823	0,885
	22	0,292	0,392	0,496	0,603	0,714	0,344	0,444	0,545	0,645	0,746	0,405	0,503	0,598	0,690	0,781	0,563	0,646	0,721	0,790	0,854

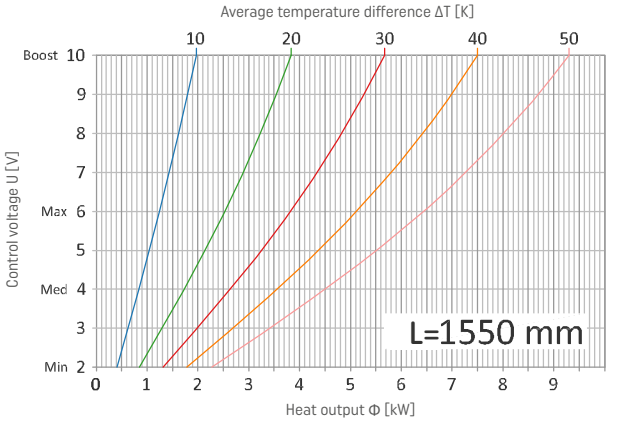
HEATING OUTPUT OF CVK2-14/29/L

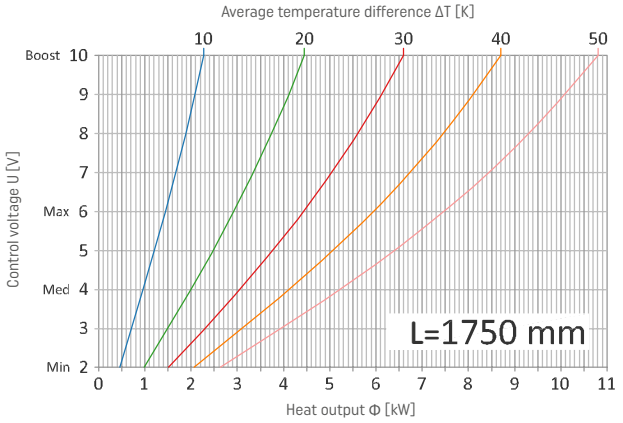
The graphs present how heat output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].

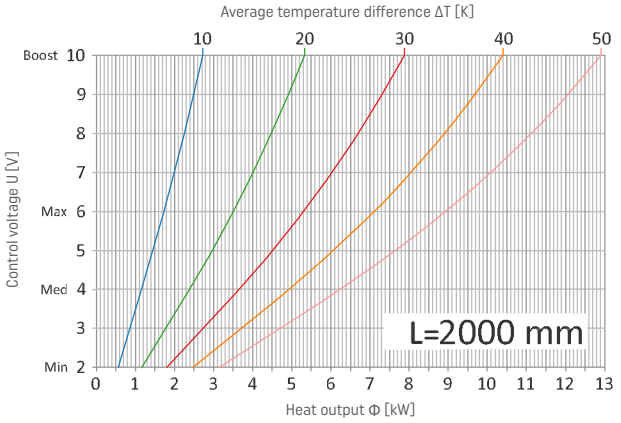






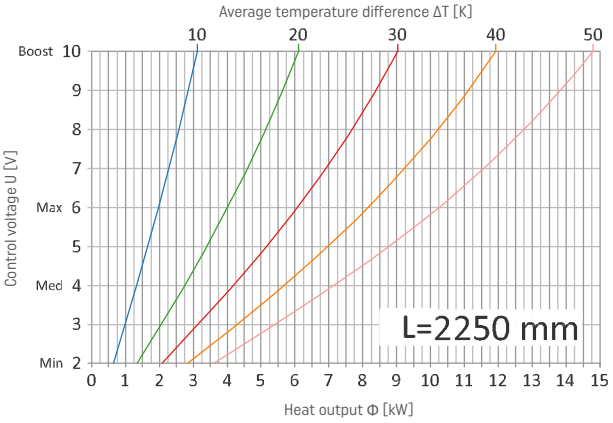


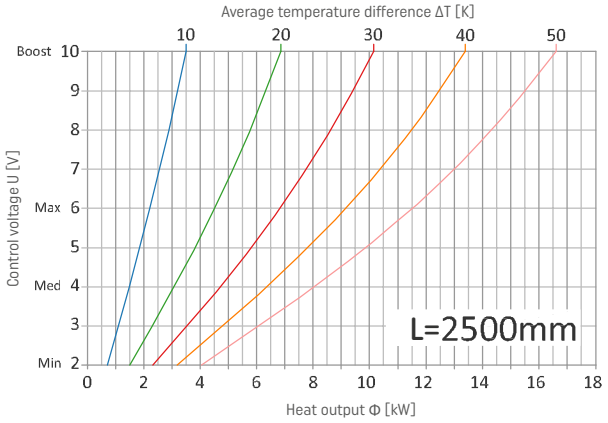


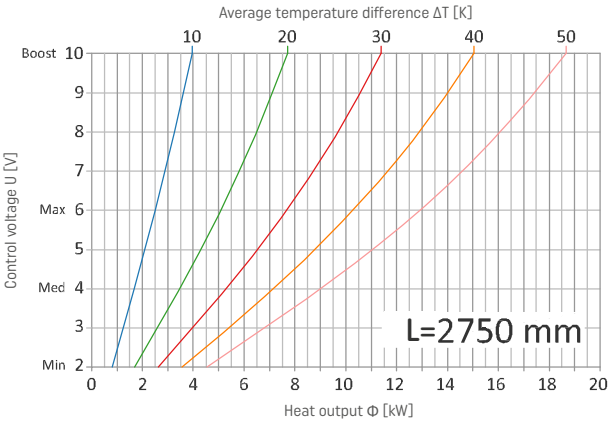


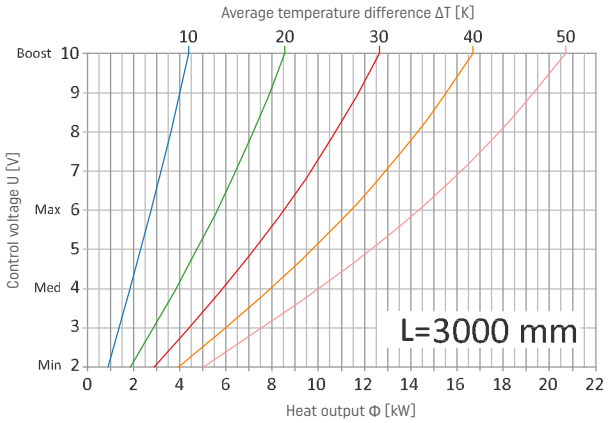
HEATING OUTPUT OF CVK2-14/29/L

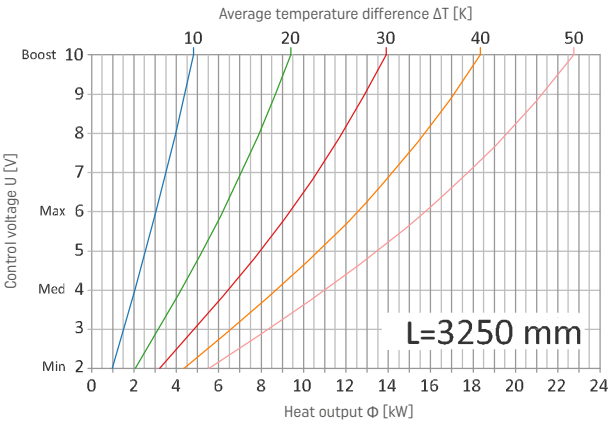
The graphs present how heat output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].





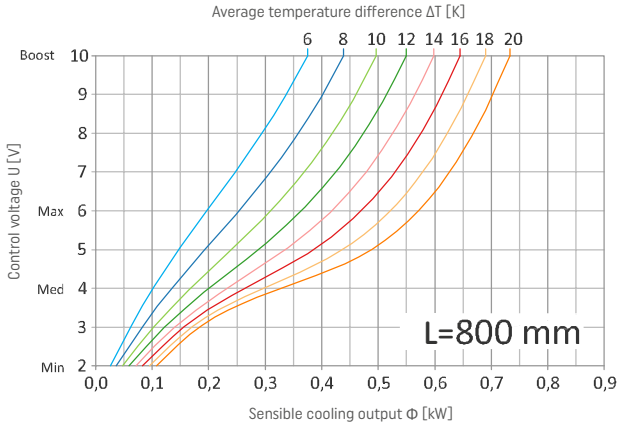


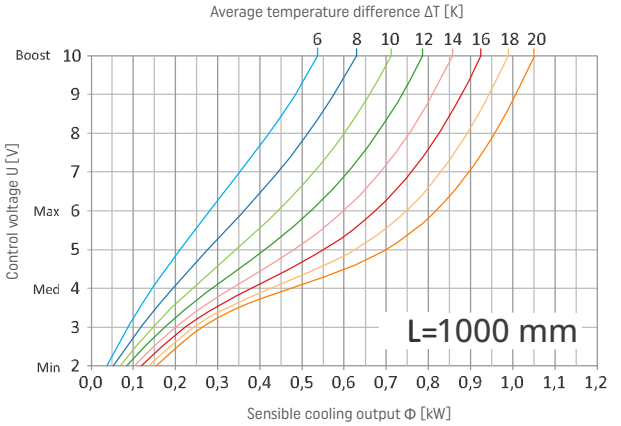


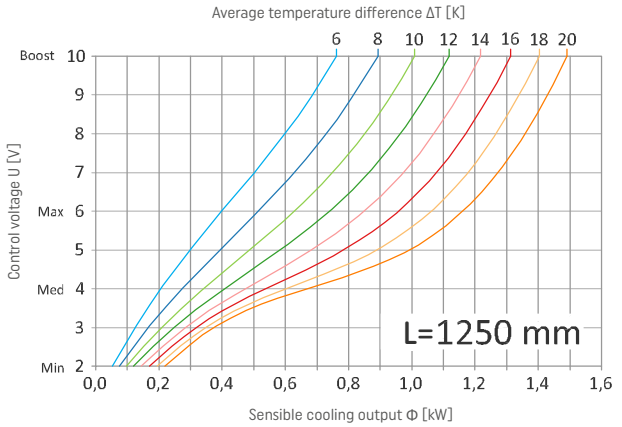


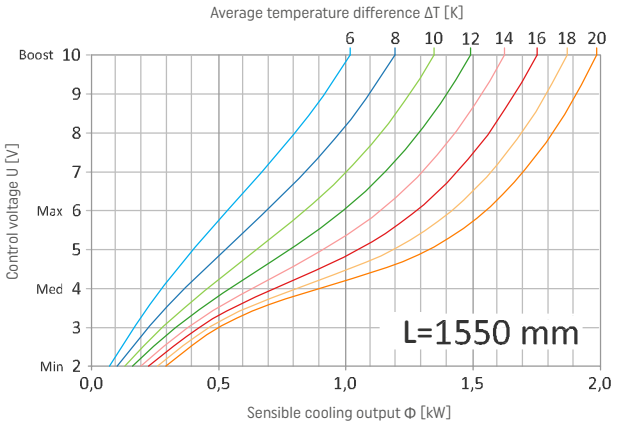
COOLING OUTPUT OF CVK2-14/29/L

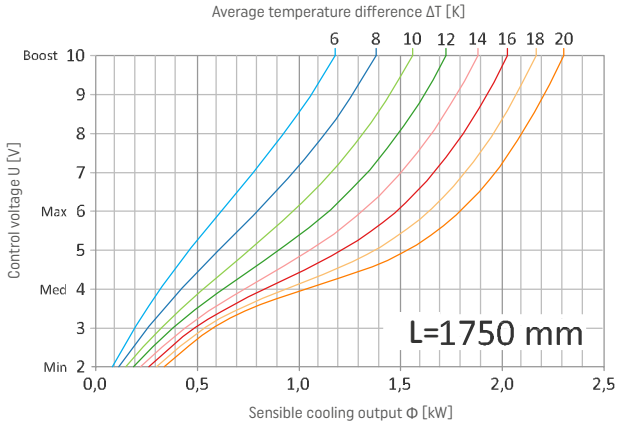
The graphs present how heat output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].

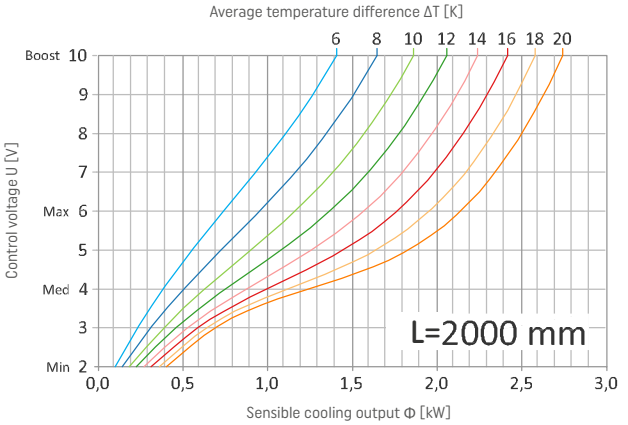






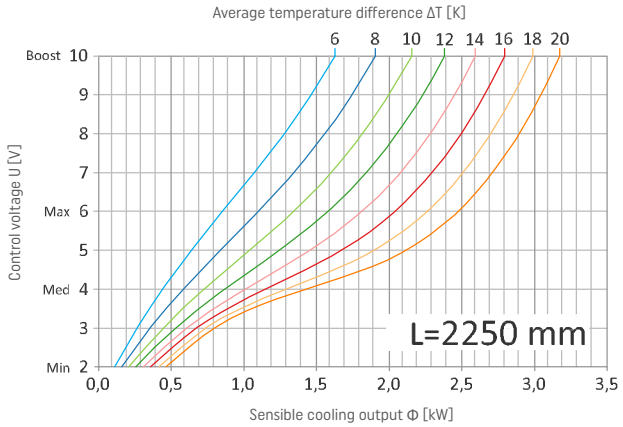


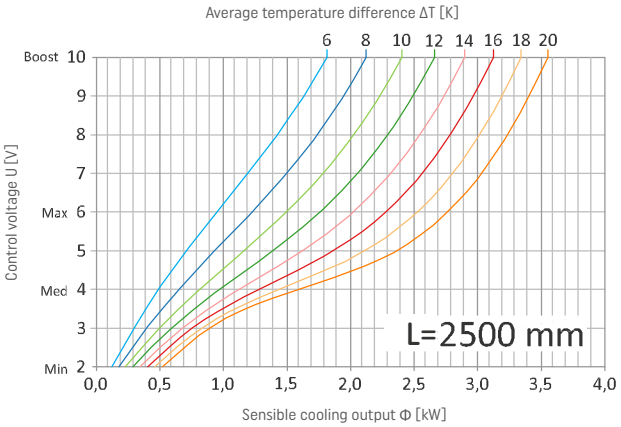


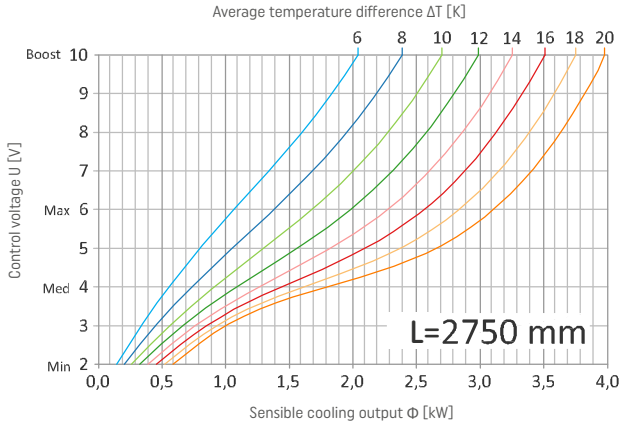


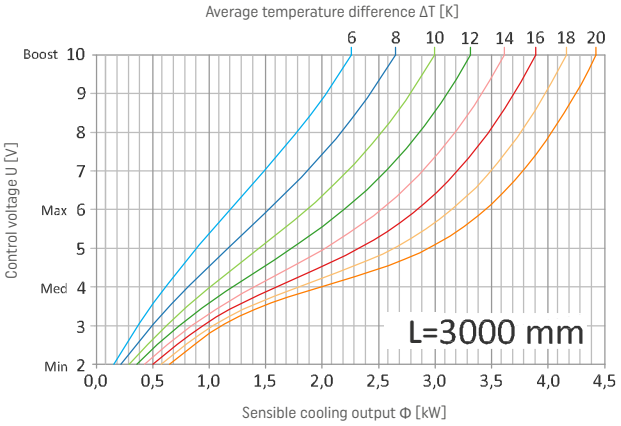
COOLING OUTPUT OF CVK2-14/29/L

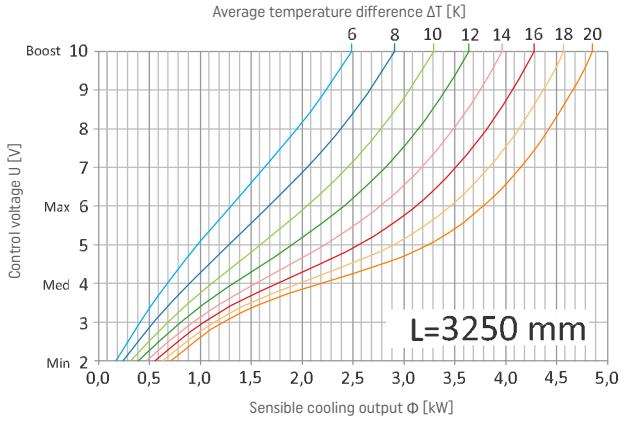
The graphs present how heat output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].











CVK2 180 mm HIGH

PRODUCT VISUALIZATION

EQUIPMENT

STANDARD EQUIPMENT:

- w casing made of galvanized steel sheet in black colour - RAL 9005,
- highly efficient cooper-aluminium heat exchanger with air vent,
- modern fan with silent and efficient 24V DC, EC motor,
- connection space cover,
- fan cover with airflow baffle,
- water connection: 3/4" female thread,
- trench struts,
- levelling legs,
- condensate drain pan,
- connection stub for condensate drainage installation (only for gravity option).

ADDITIONAL EQUIPMENT:

- decorative frame (L or F type) made of natural or anodized aluminium or painted in RAL colour,
- decorative grille made of natural or anodized aluminium, roll-up or linear type,
- condensate pump,
- assembly protection fibreboard for transporting and installation,
- raised floor kit,
- casing protective film,
- foil sleeve for heat exchanger,
- anti dust filter (requires rasing the trench by 10 mm),
- BMS controls.

DIMENSIONS

DIMENSIONS	[mm]
Trench height (H)	180
Trench bottom width (B)	320
Top width / Grille width (Bk)	354
Trench length (L)	800 ÷ 3250

Non- standard (NS) heater lengths are available on request.

ORDER CODE:

CVK2-18/32/100 (L)

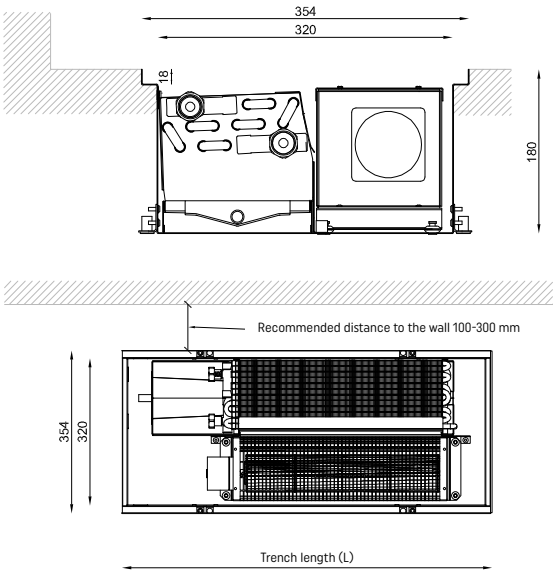
Trench height: (H) [cm]
Trench width: (B) [cm]
Trench Length: Lk [cm]
Connection side: L- Left / P-Right

180 mm HIGH

CVK2-18/32/L (L/P)

« ORDER CODE

DIMENSIONS	[mm]
Trench height (H)	180
Trench bottom width (B)	**320**
Top width / Grille width (Bk)	354
Trench length (L)	800÷3250
CONNECTION	**TYPE**
Connection thread	¾" female thread
Connection side	Left (L) standard, Right (P) option
ACCESSORIES	**TYPE**
Grille high18 mm	Roll-up – standard Linear/Modular – optional
Frame	L or F
Additional accessories	• Condensate pump (requires 100mm trench casing extension in length) • Protective fibreboard cover • Mounting kit for raised floors • Adjustable edge trim • Air filter (requires 100mm trench casing extension in high)



Trench length	Operating mode	Heat output for $t_s/t_r/t_i$ °C			Cooling sensible output for $t_s/t_r/\theta_a$ °C		Total cooling output for $t_s/t_r/t_i$ °C		Air volume flow	SFP Value	Sound pressure level	Sound power level	Electric power demand	Fan current	Max. Fan starting current	Number of fan motors
L [mm]	[-]	55/45/20	45/40/20	35/30/20	17/19/28	7/12/27	17/19/28	7/12/27	Q [m³/h]	[Ws/m³]	Lp [dB(A)]	Lw [dB(A)]	P [W]	I [A]	I [A]	[-]
		Φ [W]			Φ [W]		Φ [W]									
800	Min	575	423	235	103	192	103	238	64	81	19	27	1,4	0,06	0,8	1
	Med	1165	864	488	282	493	282	639	141	80	32	40	3,1	0,13		
	Max	1687	1261	724	454	745	454	956	217	100	43	51	6,0	0,25		
	Boost	2488	1893	1124	681	982	681	1208	343	202	57	65	19,2	0,80		
1000	Min	811	596	331	145	271	145	337	87	60	19	27	1,4	0,06	2,1	1
	Med	1642	1217	687	397	694	397	899	194	62	32	40	3,4	0,14		
	Max	2377	1777	1020	640	1049	640	1352	299	84	43	51	7,0	0,29		
	Boost	3506	2667	1584	960	1384	960	1716	471	196	57	65	25,7	1,07		
1250	Min	1125	826	459	202	376	202	470	119	102	30	38	3,4	0,14	3,4	1
	Med	2278	1688	953	551	963	551	1247	266	94	40	48	7,0	0,29		
	Max	3297	2464	1415	888	1456	888	1886	409	110	47	55	12,5	0,52		
	Boost	4863	3700	2197	1331	1919	1331	2390	643	163	57	65	29,0	1,21		
1550	Min	1556	1143	635	279	521	279	647	151	69	22	30	2,9	0,12	2,9	2
	Med	3152	2335	1319	762	1333	762	1727	335	70	35	43	6,5	0,27		
	Max	4562	3410	1958	1228	2014	1228	2590	516	90	46	54	13,0	0,54		
	Boost	6729	5119	3040	1842	2655	1842	3279	814	198	60	68	44,9	1,87		
1750	Min	1791	1316	731	321	599	321	745	174	60	22	30	2,9	0,12	4,2	2
	Med	3628	2689	1518	877	1534	877	1987	388	62	35	43	6,7	0,28		
	Max	5251	3926	2254	1414	2319	1414	2989	598	84	46	54	13,9	0,58		
	Boost	7747	5894	3500	2121	3057	2121	3790	942	196	60	68	51,4	2,14		
2000	Min	2105	1546	859	377	704	377	878	206	84	30	38	4,8	0,20	5,5	2
	Med	4264	3160	1784	1031	1803	1031	2335	460	81	41	49	10,3	0,43		
	Max	6171	4613	2649	1662	2725	1662	3521	708	99	49	57	19,4	0,81		
	Boost	9104	6926	4113	2492	3593	2492	4465	1114	177	60	68	54,7	2,28		
2250	Min	2419	1777	987	434	809	434	1011	238	102	33	41	6,7	0,28	6,8	2
	Med	4900	3631	2050	1184	2072	1184	2683	532	94	43	51	13,9	0,58		
	Max	7091	5301	3044	1909	3131	1909	4056	818	110	50	58	25,0	1,04		
	Boost	10461	7959	4726	2864	4128	2864	5141	1286	163	60	68	58,1	2,42		
2500	Min	2772	2036	1131	497	927	497	1153	261	60	24	32	4,3	0,18	6,3	3
	Med	5615	4161	2349	1357	2374	1357	3075	582	62	37	45	10,1	0,42		
	Max	8126	6075	3488	2188	3588	2188	4624	897	84	48	56	20,9	0,87		
	Boost	11987	9120	5415	3282	4731	3282	5866	1413	196	62	70	77,0	3,21		
2750	Min	3086	2267	1258	553	1032	553	1286	293	77	31	39	6,2	0,26	7,6	3
	Med	6251	4632	2615	1511	2643	1511	3423	654	75	41	49	13,7	0,57		
	Max	9046	6762	3883	2436	3995	2436	5158	1007	94	50	58	26,4	1,10		
	Boost	13345	10153	6028	3653	5266	3653	6539	1585	183	62	70	80,4	3,35		
3000	Min	3400	2497	1386	610	1137	610	1419	325	90	33	41	8,2	0,34	8,9	3
	Med	6886	5103	2881	1665	2912	1665	3771	726	86	43	51	17,3	0,72		
	Max	9966	7450	4278	2684	4401	2684	5691	1117	103	51	59	31,9	1,33		
	Boost	14702	11185	6641	4025	5802	4025	7215	1757	172	62	70	83,8	3,49		
3250	Min	3714	2728	1514	666	1242	666	1553	357	102	35	43	10,1	0,42	10,2	3
	Med	7522	5574	3147	1818	3180	1818	4118	798	94	45	53	20,9	0,87		
	Max	10886	8138	4673	2931	4807	2931	6227	1227	110	52	60	37,4	1,56		
	Boost	16059	12218	7254	4396	6337	4396	7892	1929	163	62	70	87,1	3,63		

- Standard heating and cooling output [W] compliant to EN-16430.
- Cooling output according to the relative humidity 47%.
- Control voltages for the respective modes of operation: Min – 2 V, Med – 4 V, Max – 6 V, Boost – 10 V.
- Min, Med, Max fan speeds are for continuous operations, the Boost mode is for speed heating or cooling.
- Sound power level according to ISO-3745 standard, sound pressure level measured at distance of 2 m to the heater, in a 100 m3 volume room. Reverb time - 0,5 s, room damping - 8 dB(A).

CORRECTIVE FACTORS FOR 180 mm HIGH CVK2 UNITS

Heat output corrective factors for CVK2 180 mm high units for installation temperatures other than 55/45/20 °C for heating and 17/19/28°C for cooling.

MODE OF OPERATION: HEATING																	
Supply and return temperatures [°C]		MIN				MED				MAX				BOOST			
		Room air temperature [°C]				Room air temperature [°C]				Room air temperature [°C]				Room air temperature [°C]			
t_s	t_r	12	16	20	24	12	16	20	24	12	16	20	24	12	16	20	24
75	70	2,122	1,972	1,823	1,674	2,077	1,934	1,792	1,650	2,033	1,897	1,761	1,626	1,947	1,825	1,702	1,578
	65	2,028	1,878	1,730	1,582	1,988	1,845	1,703	1,561	1,948	1,812	1,676	1,541	1,871	1,748	1,625	1,501
	60	1,935	1,785	1,637	1,490	1,898	1,756	1,614	1,473	1,863	1,727	1,592	1,456	1,794	1,671	1,548	1,423
	55	1,841	1,693	1,545	1,398	1,809	1,667	1,526	1,385	1,778	1,643	1,507	1,372	1,717	1,594	1,470	1,346
70	65	1,935	1,785	1,637	1,490	1,898	1,756	1,614	1,473	1,863	1,727	1,592	1,456	1,794	1,671	1,548	1,423
	60	1,841	1,693	1,545	1,398	1,809	1,667	1,526	1,385	1,778	1,643	1,507	1,372	1,717	1,594	1,470	1,346
	55	1,748	1,600	1,453	1,307	1,721	1,579	1,438	1,297	1,693	1,558	1,422	1,287	1,640	1,517	1,392	1,268
	50	1,656	1,508	1,361	1,216	1,632	1,490	1,350	1,209	1,609	1,473	1,338	1,203	1,563	1,439	1,314	1,189
65	60	1,748	1,600	1,453	1,307	1,721	1,579	1,438	1,297	1,693	1,558	1,422	1,287	1,640	1,517	1,392	1,268
	55	1,656	1,508	1,361	1,216	1,632	1,490	1,350	1,209	1,609	1,473	1,338	1,203	1,563	1,439	1,314	1,189
	50	1,563	1,416	1,270	1,126	1,543	1,402	1,262	1,122	1,524	1,388	1,253	1,118	1,486	1,361	1,236	1,111
	45	1,471	1,325	1,180	1,036	1,455	1,314	1,174	1,035	1,439	1,304	1,169	1,034	1,408	1,283	1,158	1,032
60	55	1,563	1,416	1,270	1,126	1,543	1,402	1,262	1,122	1,524	1,388	1,253	1,118	1,486	1,361	1,236	1,111
	50	1,471	1,325	1,180	1,036	1,455	1,314	1,174	1,035	1,439	1,304	1,169	1,034	1,408	1,283	1,158	1,032
	45	1,380	1,234	1,090	0,946	1,367	1,227	1,087	0,948	1,355	1,219	1,084	0,949	1,330	1,205	1,079	0,952
	40	1,289	1,144	1,000	0,858	1,279	1,139	1,000	0,861	1,270	1,135	1,000	0,865	1,252	1,126	1,000	0,873
55	50	1,380	1,234	1,090	0,946	1,367	1,227	1,087	0,948	1,355	1,219	1,084	0,949	1,330	1,205	1,079	0,952
	45	1,289	1,144	1,000	0,858	1,279	1,139	1,000	0,861	1,270	1,135	1,000	0,865	1,252	1,126	1,000	0,873
	40	1,198	1,054	0,911	0,770	1,192	1,052	0,913	0,775	1,186	1,051	0,916	0,781	1,173	1,047	0,921	0,793
	35	1,108	0,964	0,822	0,682	1,104	0,965	0,827	0,690	1,101	0,966	0,832	0,697	1,095	0,968	0,841	0,713
50	45	1,198	1,054	0,911	0,770	1,192	1,052	0,913	0,775	1,186	1,051	0,916	0,781	1,173	1,047	0,921	0,793
	40	1,108	0,964	0,822	0,682	1,104	0,965	0,827	0,690	1,101	0,966	0,832	0,697	1,095	0,968	0,841	0,713
	35	1,018	0,875	0,734	0,595	1,017	0,879	0,741	0,604	1,017	0,882	0,748	0,613	1,016	0,889	0,761	0,632
45	40	1,018	0,875	0,734	0,595	1,017	0,879	0,741	0,604	1,017	0,882	0,748	0,613	1,016	0,889	0,761	0,632
	35	0,929	0,787	0,647	0,510	0,931	0,793	0,655	0,519	0,933	0,798	0,664	0,530	0,937	0,809	0,680	0,550
40	35	0,840	0,700	0,561	0,425	0,844	0,707	0,570	0,435	0,848	0,714	0,580	0,446	0,857	0,729	0,599	0,468
	30	0,752	0,613	0,475	0,341	0,758	0,621	0,486	0,352	0,764	0,630	0,496	0,362	0,777	0,648	0,518	0,385
35	30	0,665	0,527	0,391	0,259	0,672	0,536	0,402	0,269	0,680	0,546	0,413	0,279	0,696	0,567	0,435	0,302

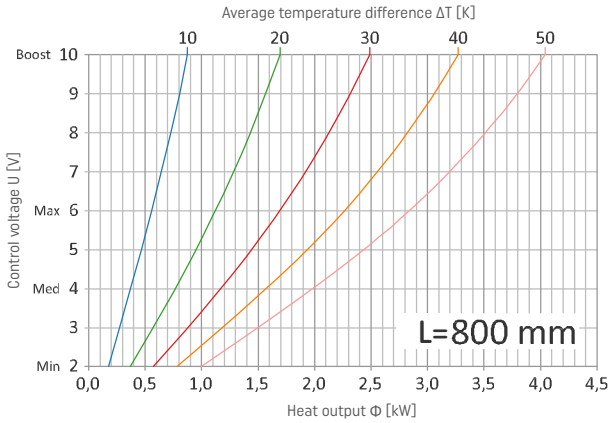
CORRECTIVE FACTORS FOR 180 mm HIGH CVK2 UNITS

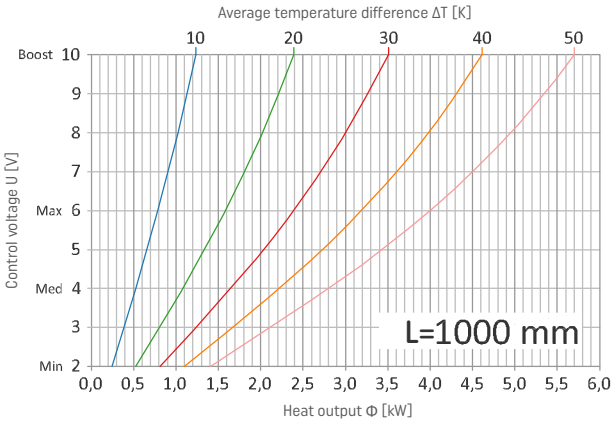
Heat output corrective factors for CVK2 180 mm high units for installation temperatures other than 55/45/20 °C for heating and 17/19/28°C for cooling.

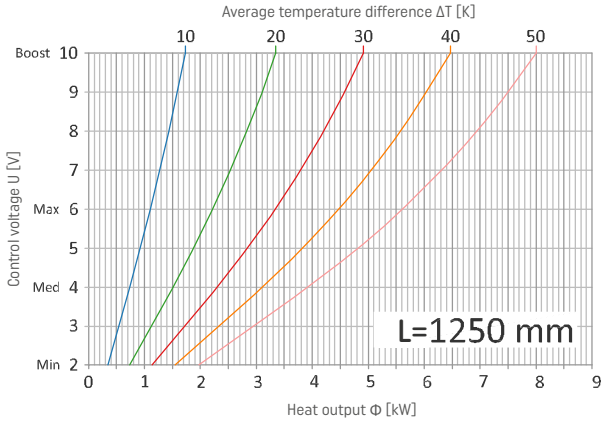
MODE OF OPERATION: COOLING																					
Supply and return temperatures [°C]		MIN					MED					MAX					BOOST				
		Room air temperature [°C]					Room air temperature [°C]					Room air temperature [°C]					Room air temperature [°C]				
t_s	t_r	24	25	26	27	28	24	25	26	27	28	24	25	26	27	28	24	25	26	27	28
6	8	1,806	1,925	2,045	2,165	2,286	1,699	1,799	1,899	1,999	2,099	1,598	1,681	1,764	1,845	1,927	1,415	1,468	1,521	1,573	1,624
	9	1,747	1,866	1,985	2,105	2,225	1,649	1,749	1,849	1,949	2,049	1,557	1,640	1,722	1,805	1,886	1,387	1,442	1,495	1,547	1,599
	10	1,688	1,806	1,925	2,045	2,165	1,599	1,699	1,799	1,899	1,999	1,515	1,598	1,681	1,764	1,845	1,360	1,415	1,468	1,521	1,573
	11	1,985	2,105	2,225	2,347	2,469	1,849	1,949	2,049	2,149	2,248	1,722	1,805	1,886	1,967	2,048	1,332	1,387	1,442	1,495	1,547
	12	1,571	1,688	1,806	1,925	2,045	1,499	1,599	1,699	1,799	1,899	1,431	1,515	1,598	1,681	1,764	1,303	1,360	1,415	1,468	1,521
7	9	1,688	1,806	1,925	2,045	2,165	1,599	1,699	1,799	1,899	1,999	1,515	1,598	1,681	1,764	1,845	1,360	1,415	1,468	1,521	1,573
	10	1,630	1,747	1,866	1,985	2,105	1,549	1,649	1,749	1,849	1,949	1,473	1,557	1,640	1,722	1,805	1,332	1,387	1,442	1,495	1,547
	11	1,571	1,688	1,806	1,925	2,045	1,499	1,599	1,699	1,799	1,899	1,431	1,515	1,598	1,681	1,764	1,303	1,360	1,415	1,468	1,521
	12	1,925	2,045	2,165	2,286	2,407	1,799	1,899	1,999	2,099	2,198	1,681	1,764	1,845	1,927	2,008	1,275	1,332	1,387	1,442	1,495
	13	1,455	1,571	1,688	1,806	1,925	1,400	1,499	1,599	1,699	1,799	1,346	1,431	1,515	1,598	1,681	1,246	1,303	1,360	1,415	1,468
8	10	1,571	1,688	1,806	1,925	2,045	1,499	1,599	1,699	1,799	1,899	1,431	1,515	1,598	1,681	1,764	1,303	1,360	1,415	1,468	1,521
	11	1,513	1,630	1,747	1,866	1,985	1,450	1,549	1,649	1,749	1,849	1,389	1,473	1,557	1,640	1,722	1,275	1,332	1,387	1,442	1,495
	12	1,455	1,571	1,688	1,806	1,925	1,400	1,499	1,599	1,699	1,799	1,346	1,431	1,515	1,598	1,681	1,246	1,303	1,360	1,415	1,468
	13	1,397	1,513	1,630	1,747	1,866	1,350	1,450	1,549	1,649	1,749	1,304	1,389	1,473	1,557	1,640	1,217	1,275	1,332	1,387	1,442
10	12	1,340	1,455	1,571	1,688	1,806	1,300	1,400	1,499	1,599	1,699	1,261	1,346	1,431	1,515	1,598	1,187	1,246	1,303	1,360	1,415
	13	1,282	1,397	1,513	1,630	1,747	1,250	1,350	1,450	1,549	1,649	1,218	1,304	1,389	1,473	1,557	1,157	1,217	1,275	1,332	1,387
	14	1,225	1,340	1,455	1,571	1,688	1,200	1,300	1,400	1,499	1,599	1,175	1,261	1,346	1,431	1,515	1,127	1,187	1,246	1,303	1,360
	15	1,169	1,282	1,397	1,513	1,630	1,150	1,250	1,350	1,450	1,549	1,131	1,218	1,304	1,389	1,473	1,096	1,157	1,217	1,275	1,332
12	14	1,112	1,225	1,340	1,455	1,571	1,100	1,200	1,300	1,400	1,499	1,088	1,175	1,261	1,346	1,431	1,064	1,127	1,187	1,246	1,303
	15	1,056	1,169	1,282	1,397	1,513	1,050	1,150	1,250	1,350	1,450	1,044	1,131	1,218	1,304	1,389	1,032	1,096	1,157	1,217	1,275
	16	1,000	1,112	1,225	1,340	1,455	1,000	1,100	1,200	1,300	1,400	1,000	1,088	1,175	1,261	1,346	1,000	1,064	1,127	1,187	1,246
	17	0,944	1,056	1,169	1,282	1,397	0,950	1,050	1,150	1,250	1,350	0,956	1,044	1,131	1,218	1,304	0,967	1,032	1,096	1,157	1,217
16	18	0,672	0,780	0,889	1,000	1,112	0,700	0,800	0,900	1,000	1,100	0,730	0,821	0,911	1,000	1,088	0,792	0,864	0,933	1,000	1,064
	19	0,619	0,726	0,834	0,944	1,056	0,650	0,750	0,850	0,950	1,050	0,683	0,775	0,866	0,956	1,044	0,755	0,829	0,899	0,967	1,032
17	19	0,566	0,672	0,780	0,889	1,000	0,600	0,700	0,800	0,900	1,000	0,637	0,730	0,821	0,911	1,000	0,716	0,792	0,864	0,933	1,000
	20	0,514	0,619	0,726	0,834	0,944	0,550	0,650	0,750	0,850	0,950	0,590	0,683	0,775	0,866	0,956	0,677	0,755	0,829	0,899	0,967
19	21	0,360	0,462	0,566	0,672	0,780	0,400	0,500	0,600	0,700	0,800	0,445	0,542	0,637	0,730	0,821	0,549	0,636	0,716	0,792	0,864
	22	0,310	0,411	0,514	0,619	0,726	0,350	0,450	0,550	0,650	0,750	0,395	0,494	0,590	0,683	0,775	0,504	0,593	0,677	0,755	0,829

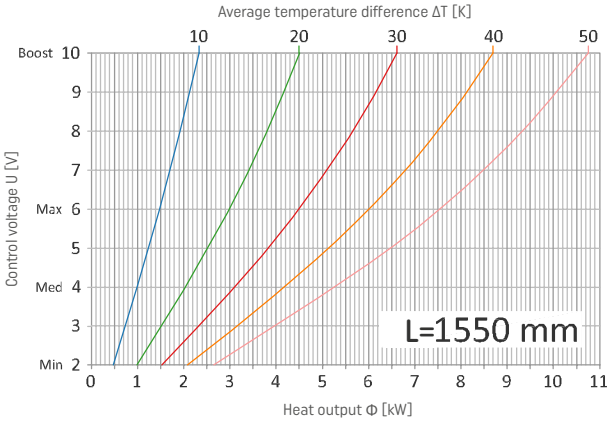
HEATING OUTPUT OF CVK2-18/32/L

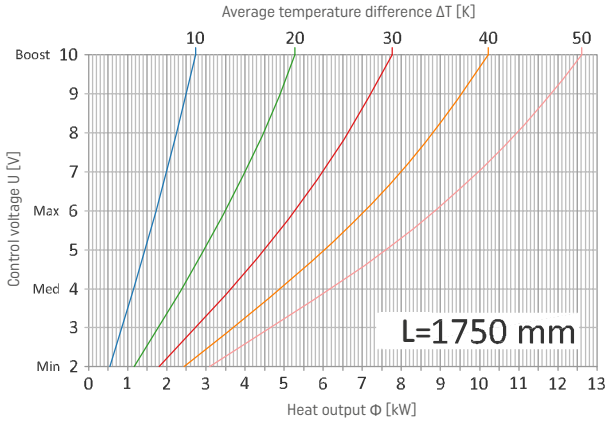
The graphs present how heat output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].

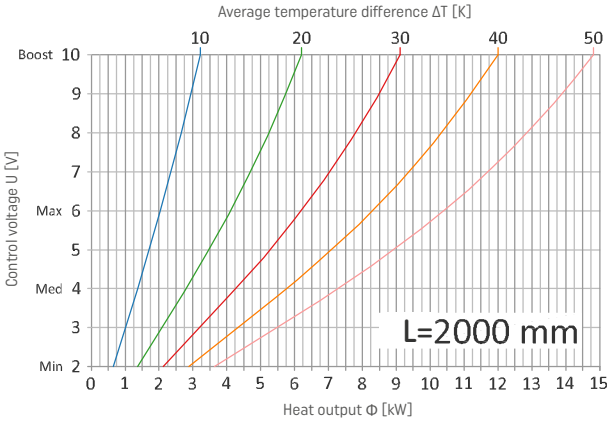






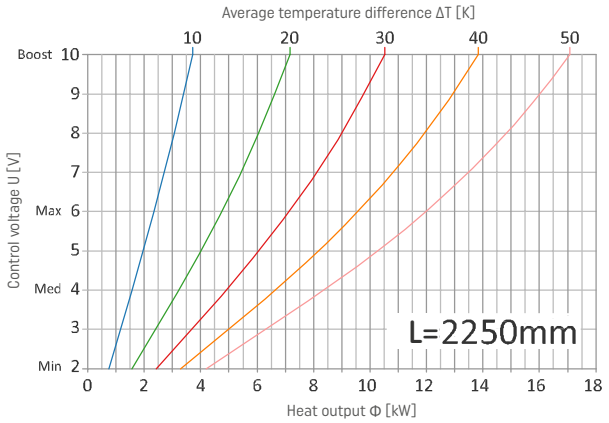


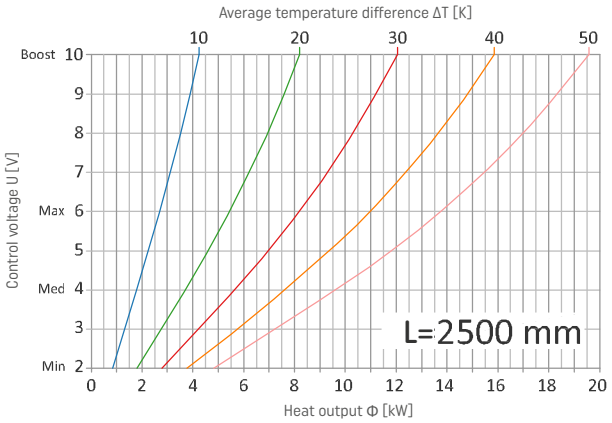


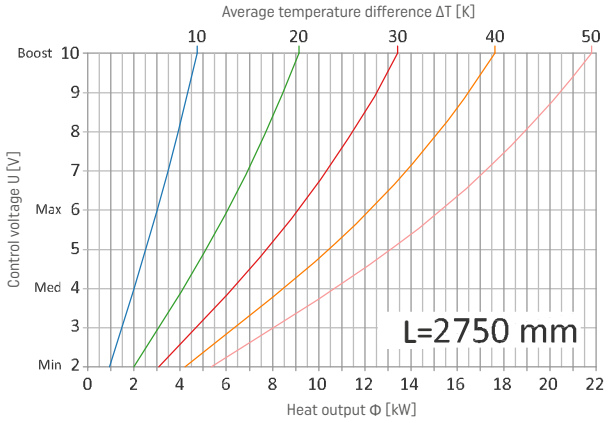


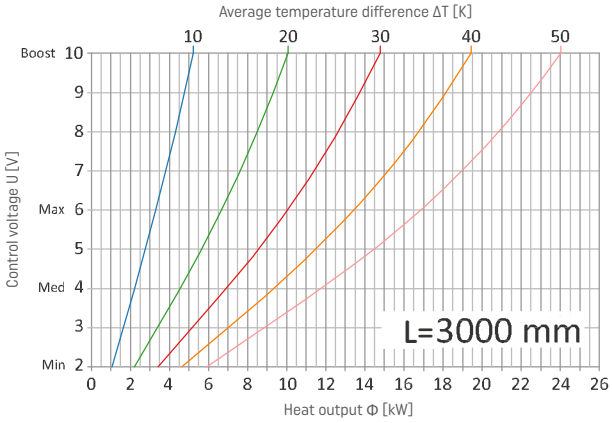
HEATING OUTPUT OF CVK2-18/32/L

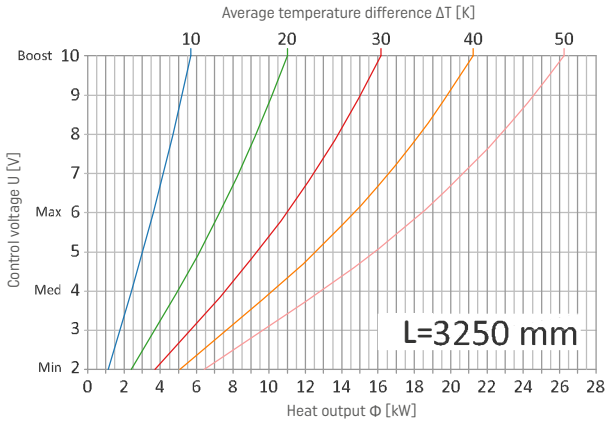
The graphs present how heat output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].





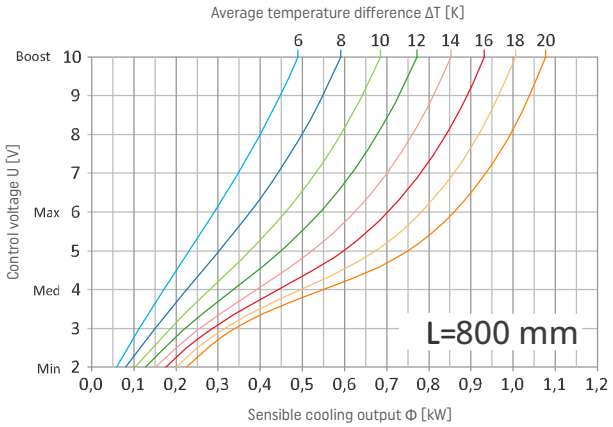


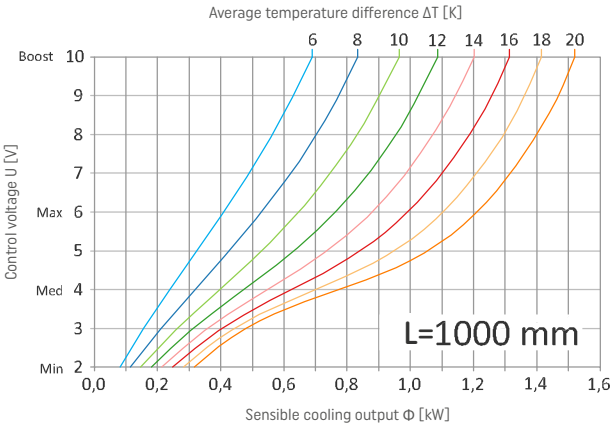


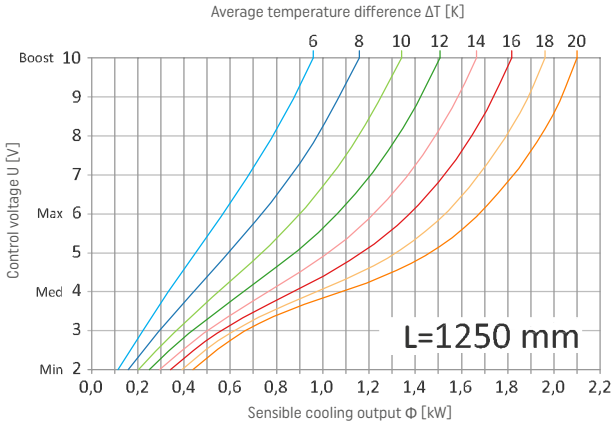


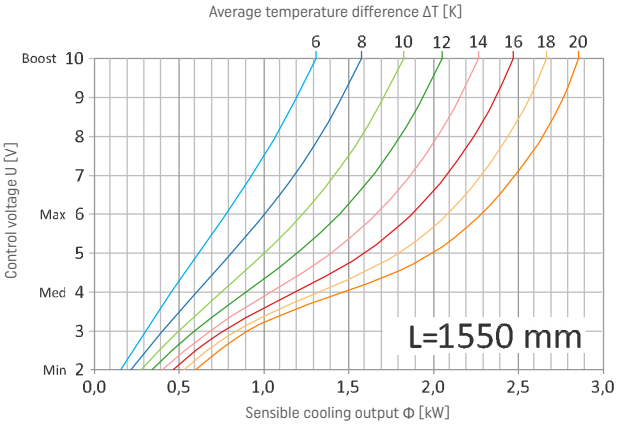
COOLING OUTPUT OF CVK2-18/32/L

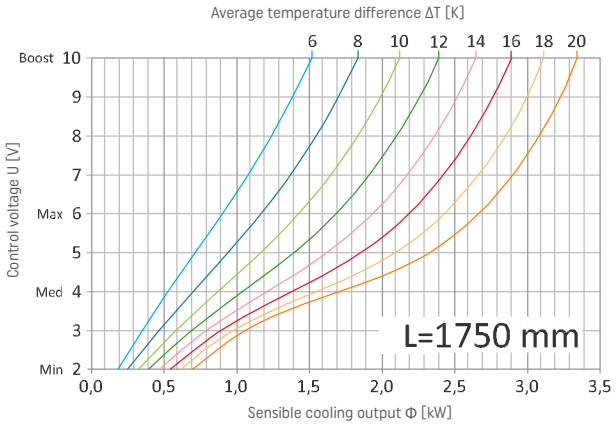
The graphs present how heat output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].

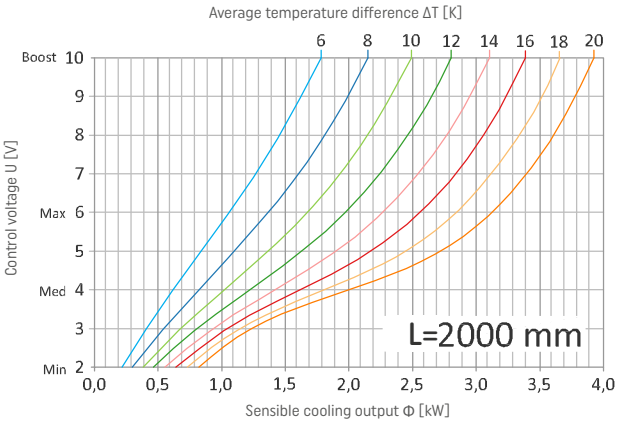






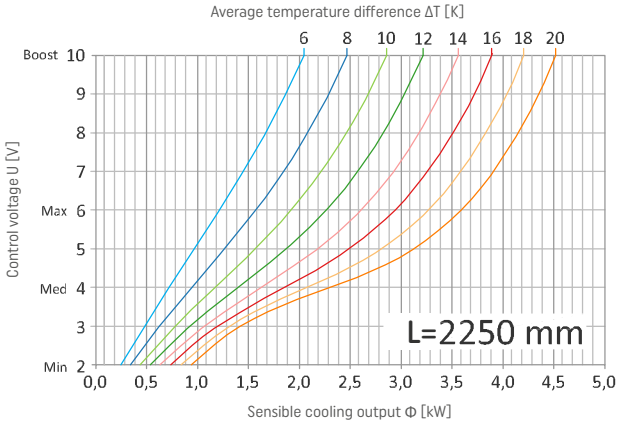


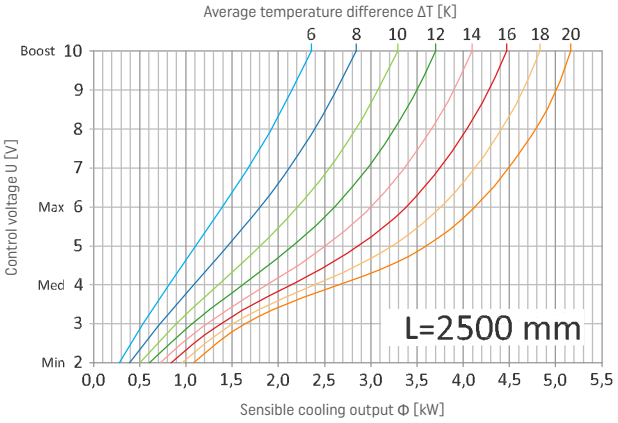


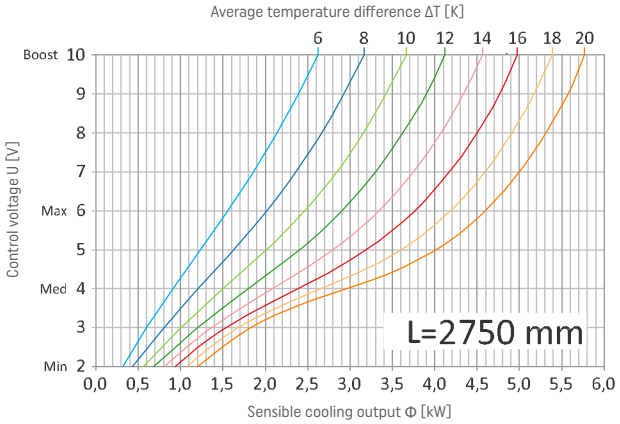


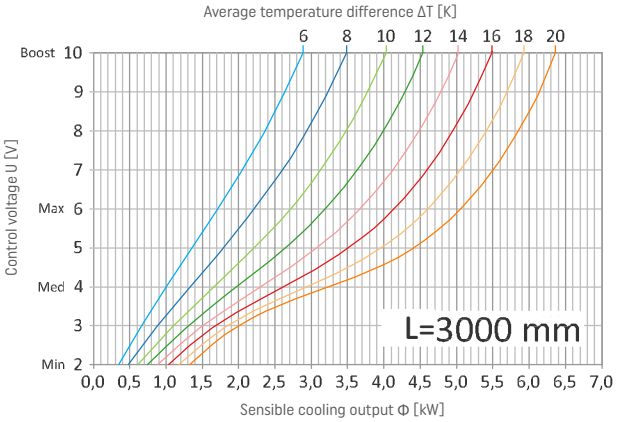
COOLING OUTPUT OF CVK2-18/32/L

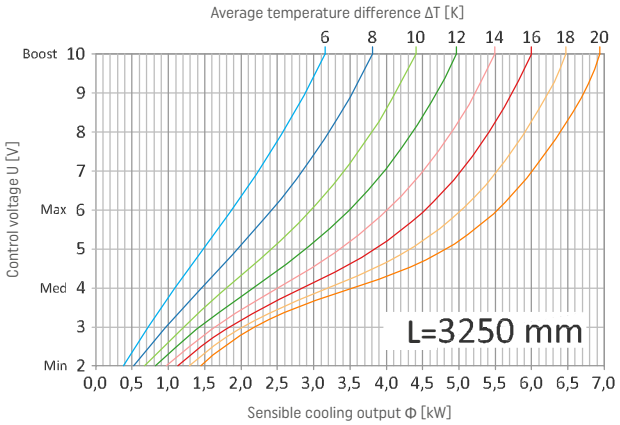
The graphs present how heat output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].









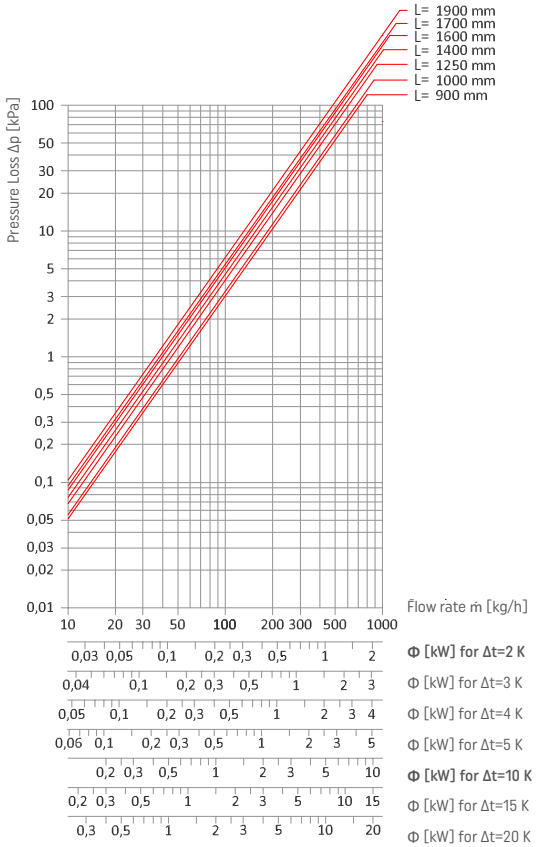


DECLARED PROPERTIES

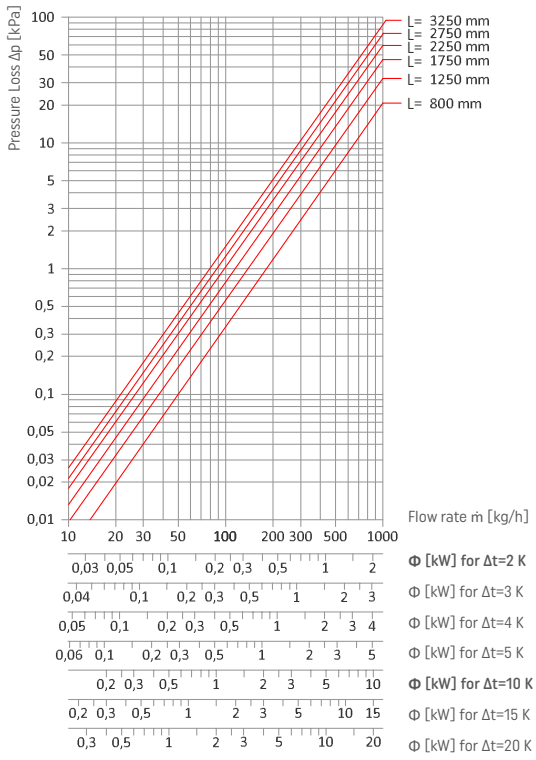
- Maximum permissible operating pressure: **1,0 MPa**
- Test pressure: **1,3 MPa**
- Maximum hydraulic pressure: **1,69 MPa**
- Minimum operating temperature: **6°C**
- Maximum operating temperature: **110°C**

PRESSURE LOSS

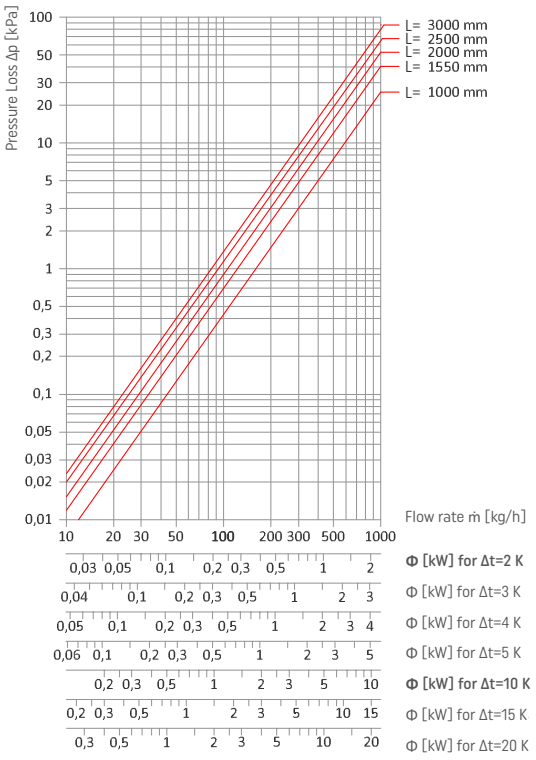
CVK2-10/17/L
HEATING / COOLING



CVK2-14/29/L
HEATING / COOLING

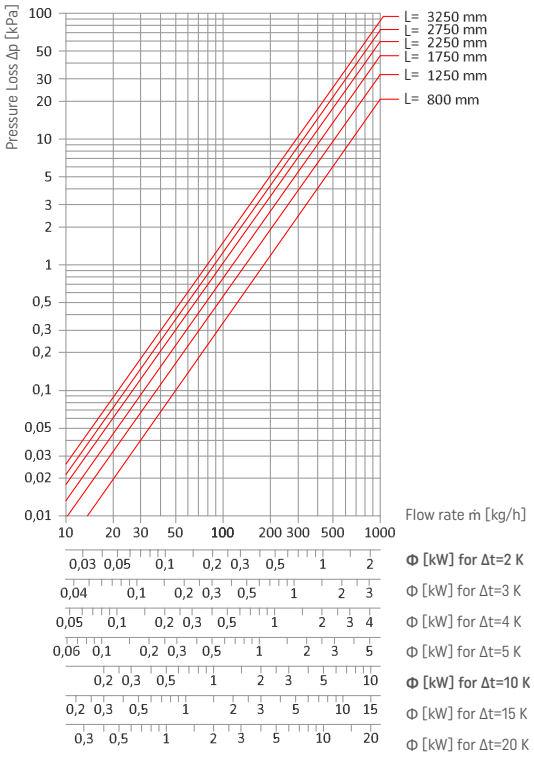


CVK2-14/29/L
HEATING / COOLING

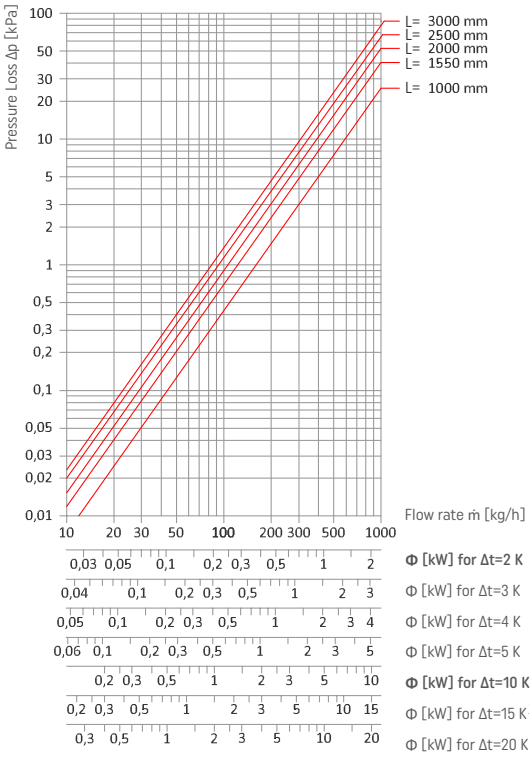


PRESSURE LOSS

CVK2-18/32/L
HEATING / COOLING



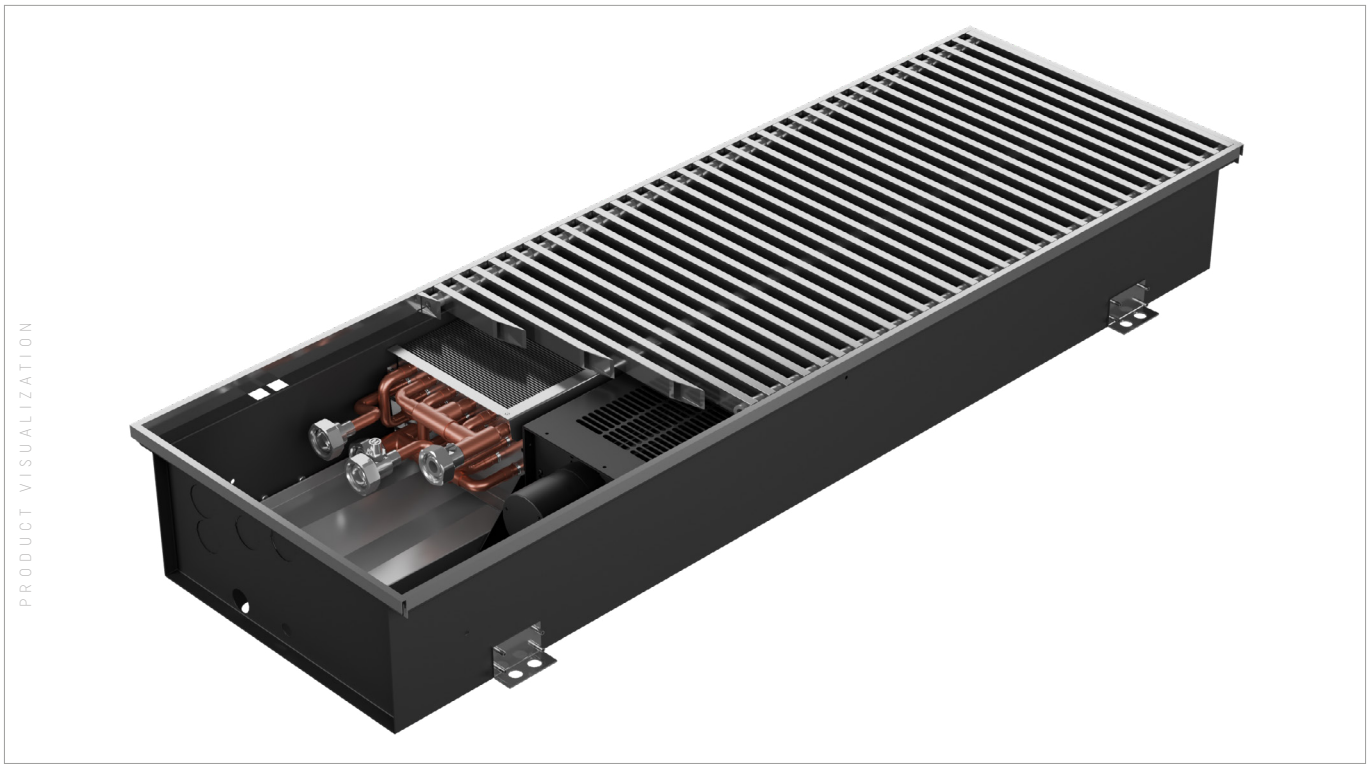
CVK2-18/32/L
HEATING / COOLING



CVK2 WATER CAPACITY

UNIT TYPE	CVK2-10/17/L	CVK2-14/29/L	CVK2-18/32/L
OPERATING MODE	HEATING / COOLING		
TRENCH LENGTH L [mm]	WATER CAPACITY [dm³]		
800	-	0,69	0,69
900	0,29	-	-
1000	0,32	0,90	0,90
1250	0,41	1,21	1,19
1400	0,46	-	-
1550	-	1,56	1,57
1600	0,55	-	-
1700	0,59	-	-
1750	-	1,78	1,78
1900	0,67	-	-
2000	-	2,08	2,06
2250	-	2,38	2,34
2500	-	2,65	2,66
2750	-	2,95	2,94
3000	-	3,26	3,22
3250	-	3,56	3,50

CVK4 140 mm HIGH



EQUIPMENT

STANDARD EQUIPMENT:

- w casing made of galvanized steel sheet in black colour - RAL 9005,
- highly efficient cooper-aluminium heat exchanger with air vent,
- modern fan with silent and efficient 24V DC, EC motor,
- connection space cover,
- fan cover with airflow baffle,
- water connection: 3/4" female thread,
- trench struts,
- levelling legs,
- condensate drain pan,
- connection stub for condensate drainage installation (only for gravity option).

ADDITIONAL EQUIPMENT:

- decorative frame (L or F type) made of natural or anodized aluminium or painted in RAL colour,
- decorative grille made of natural or anodized aluminium, roll-up or linear type,
- condensate pump,
- assembly protection fibreboard for transporting and installation,
- raised floor kit,
- casing protective film,
- foil sleeve for heat exchanger,
- anti dust filter (requires rasing the trench by 10 mm),
- BMS controls.

DIMENSIONS

DIMENSIONS	[mm]
Trench height (H)	140
Szerokość podstawy kanału (B)	290
Szerokość górna kanału (Bk)	324
Trench length (L)	800 ÷ 3250

Istnieje możliwość wykonania wanny klimakonwektora o długości niestandardowej (NS).

ORDER CODE:

CVK4-14/29/100 (L)

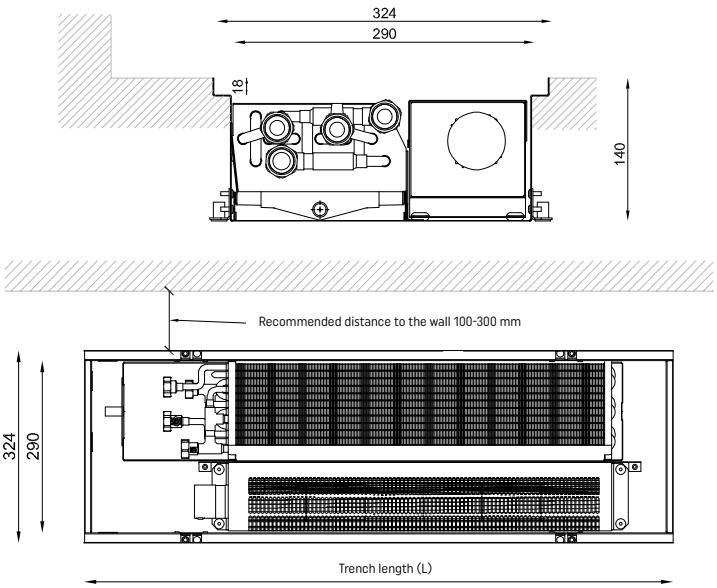
- Trench height: H [cm]
- Trench width: B [cm]
- Trench Length: Lk [cm]
- Connection side: L - Lewa / P - Prawa

140 mm HIGH

CVK4-14/29/L (L/P)

« ORDER CODE

DIMENSIONS	[mm]
Trench height (H)	140
Trench bottom width (B)	**290**
Top width / Grille width (Bk)	324
Trench length (L)	800÷3250
CONNECTION	**TYPE**
Connection thread	3/4" female thread
Connection side	Left (L) standard, Right (P) option
ACCESSORIES	**TYPE**
Grille high 18 mm	Roll-up – standard Linear/Modular – optional
Frame	L or F
Additional accessories	• Condensate pump (requires 100mm trench casing extension in length) • Protective fibreboard cover • Mounting kit for raised floors • Adjustable edge trim • Air filter (requires 100mm trench casing extension in high)



Trench length	Operating mode	Heat output for $t_s/t_r/t_i$ °C			Cooling sensible output for $t_s/t_r/\theta_a$ °C		Total cooling output for $t_s/t_r/t_i$ °C		Air volume flow	SFP Value	Sound pressure level	Sound power level	Electric power demand	Fan current	Max. Fan starting current	Number of fan motors
L [mm]	[-]	55/45/20	45/40/20	35/30/20	17/19/28	7/12/27	17/19/28	7/12/27	Q [m³/h]	[Ws/m³]	Lp [dB(A)]	Lw [dB(A)]	P [W]	I [A]	**I [A]**	[-]
		Φ [W]			Φ [W]		Φ [W]									
800	Min	486	357	198	72	129	72	188	53	49	18	26	0,72	0,03	0,80	1
	Med	**774**	**572**	**321**	**159**	**271**	**159**	**362**	**90**	**67**	**20**	**28**	**1,68**	**0,07**		
	Max	986	733	416	233	378	233	481	119	123	31	39	4,08	0,17		
	Boost	1265	952	554	324	476	324	590	157	440	48	56	19,20	0,80		
1000	Min	693	509	282	103	184	103	266	74	58	20	28	1,20	0,05	1,20	1
	Med	**1103**	**815**	**457**	**227**	**387**	**227**	**521**	**126**	**75**	**25**	**33**	**2,64**	**0,11**		
	Max	1405	1044	593	332	538	332	684	166	130	34	42	6,00	0,25		
	Boost	1803	1357	789	461	679	461	840	224	347	49	57	21,60	0,90		
1250	Min	983	722	400	146	261	146	383	105	49	25	33	1,44	0,06	1,50	1
	Med	**1566**	**1157**	**649**	**322**	**549**	**322**	**745**	**176**	**64**	**28**	**36**	**3,12**	**0,13**		
	Max	1994	1482	842	471	764	471	972	232	123	37	45	7,92	0,33		
	Boost	2559	1926	1120	655	963	655	1276	305	397	50	58	33,60	1,40		
1500	Min	1317	967	536	195	349	195	503	127	54	22	30	1,92	0,08	2,00	2
	Med	**2098**	**1550**	**870**	**432**	**735**	**432**	**986**	**216**	**72**	**26**	**34**	**4,32**	**0,18**		
	Max	2671	1985	1128	631	1024	631	1418	285	127	36	44	10,08	0,42		
	Boost	3428	2580	1501	877	1290	877	1778	381	386	52	60	40,80	1,70		
1750	Min	1524	1119	620	226	404	226	587	148	58	23	31	2,40	0,10	2,40	2
	Med	**2427**	**1793**	**1006**	**499**	**850**	**499**	**1020**	**252**	**75**	**28**	**36**	**5,28**	**0,22**		
	Max	3090	2297	1305	730	1184	730	1667	332	130	37	45	12,00	0,50		
	Boost	3966	2985	1736	1015	1493	1015	2085	448	347	52	60	43,20	1,80		
2000	Min	1814	1332	739	269	481	269	698	179	53	26	34	2,64	0,11	2,70	2
	Med	**2890**	**2135**	**1198**	**594**	**1012**	**594**	**1447**	**302**	**69**	**30**	**38**	**5,76**	**0,24**		
	Max	3679	2735	1553	869	1410	869	2006	398	126	39	47	13,92	0,58		
	Boost	4722	3554	2067	1209	1777	1209	2511	529	376	53	61	55,20	2,30		
2250	Min	2105	1545	857	312	558	312	809	210	49	28	36	2,88	0,12	3,00	2
	Med	**3353**	**2476**	**1390**	**690**	**1175**	**690**	**1701**	**352**	**64**	**31**	**39**	**6,24**	**0,26**		
	Max	4269	3173	1802	1008	1636	1008	2345	464	123	40	48	15,84	0,66		
	Boost	5478	4123	2398	1402	2062	1402	2936	610	397	53	61	67,20	2,80		
2500	Min	2355	1729	959	349	625	349	910	222	195	24	32	12,00	0,50	3,60	3
	Med	**3751**	**2771**	**1555**	**772**	**1314**	**772**	**1914**	**378**	**75**	**30**	**38**	**7,92**	**0,33**		
	Max	4776	3550	2016	1128	1830	1128	2640	498	130	39	47	18,00	0,75		
	Boost	6129	4613	2683	1569	2307	1569	3254	672	386	54	62	72,00	3,00		
2750	Min	2646	1942	1077	392	702	392	1015	253	55	27	35	3,84	0,16	3,90	3
	Med	**4214**	**3113**	**1747**	**867**	**1476**	**867**	**2154**	**428**	**71**	**31**	**39**	**8,40**	**0,35**		
	Max	5365	3988	2265	1268	2056	1268	2970	564	127	40	48	19,92	0,83		
	Boost	6885	5182	3014	1762	2591	1762	3718	753	367	54	62	76,80	3,20		
3000	Min	2936	2155	1195	435	779	435	1132	284	52	28	36	4,08	0,17	4,20	3
	Med	**4677**	**3454**	**1939**	**962**	**1638**	**962**	**2396**	**478**	**67**	**32**	**40**	**8,88**	**0,37**		
	Max	5954	4426	2514	1407	2281	1407	3309	630	125	41	49	21,84	0,91		
	Boost	7641	5751	3345	1956	2876	1956	4138	834	383	55	63	88,80	3,70		
3250	Min	3227	2368	1313	478	856	478	1248	315	49	29	37	4,32	0,18	4,50	3
	Med	**5139**	**3796**	**2130**	**1057**	**1801**	**1057**	**2645**	**528**	**64**	**33**	**41**	**9,36**	**0,39**		
	Max	6543	4863	2762	1546	2507	1546	3643	696	123	41	49	23,76	0,99		
	Boost	8396	6320	3676	2149	3160	2149	4556	915	397	55	63	100,80	4,20		

- Standard heating and cooling output [W] compliant to EN-16430.
- Cooling output according to the relative humidity 47%.
- Control voltages for the respective modes of operation: Min – 2 V, Med – 4 V, Max – 6 V, Boost – 10 V.
- Min, Med, Max fan speeds are for continuous operations, the Boost mode is for speed heating or cooling.
- Sound power level according to ISO-3745 standard, sound pressure level measured at distance of 2 m to the heater, in a 100 m3 volume room. Reverb time - 0,5 s, room damping - 8 dB(A).

CORRECTIVE FACTORS FOR 140 mm HIGH CVK4 UNITS

Heat output corrective factors for CVK4 140 mm high units for installation temperatures other than 55/45/20 °C for heating and 17/19/28 °C for cooling.

MODE OF OPERATION: HEATING																	
Supply and return temperatures [°C]		MIN				MED				MAX				BOOST			
		Room air temperature [°C]				Room air temperature [°C]				Room air temperature [°C]				Room air temperature [°C]			
t_s	t_r	12	16	20	24	12	16	20	24	12	16	20	24	12	16	20	24
75	70	2,125	1,975	1,825	1,676	2,093	1,948	1,803	1,658	2,061	1,921	1,781	1,641	1,999	1,869	1,738	1,607
	65	2,031	1,881	1,732	1,583	2,002	1,857	1,712	1,569	1,974	1,833	1,694	1,554	1,918	1,787	1,656	1,525
	60	1,937	1,788	1,639	1,491	1,911	1,767	1,622	1,479	1,886	1,746	1,606	1,467	1,836	1,705	1,574	1,443
	55	1,844	1,694	1,546	1,399	1,821	1,676	1,533	1,390	1,798	1,659	1,519	1,380	1,754	1,624	1,493	1,361
70	65	1,937	1,788	1,639	1,491	1,911	1,767	1,622	1,479	1,886	1,746	1,606	1,467	1,836	1,705	1,574	1,443
	60	1,844	1,694	1,546	1,399	1,821	1,676	1,533	1,390	1,798	1,659	1,519	1,380	1,754	1,624	1,493	1,361
	55	1,750	1,602	1,454	1,308	1,731	1,586	1,443	1,300	1,711	1,571	1,432	1,293	1,673	1,542	1,411	1,279
	50	1,657	1,509	1,362	1,216	1,640	1,497	1,354	1,212	1,624	1,484	1,345	1,207	1,591	1,460	1,329	1,197
65	60	1,750	1,602	1,454	1,308	1,731	1,586	1,443	1,300	1,711	1,571	1,432	1,293	1,673	1,542	1,411	1,279
	55	1,657	1,509	1,362	1,216	1,640	1,497	1,354	1,212	1,624	1,484	1,345	1,207	1,591	1,460	1,329	1,197
	50	1,565	1,417	1,271	1,126	1,551	1,407	1,265	1,123	1,537	1,397	1,259	1,121	1,509	1,378	1,247	1,115
	45	1,473	1,326	1,180	1,036	1,461	1,318	1,176	1,035	1,450	1,311	1,172	1,034	1,427	1,296	1,164	1,033
60	55	1,565	1,417	1,271	1,126	1,551	1,407	1,265	1,123	1,537	1,397	1,259	1,121	1,509	1,378	1,247	1,115
	50	1,473	1,326	1,180	1,036	1,461	1,318	1,176	1,035	1,450	1,311	1,172	1,034	1,427	1,296	1,164	1,033
	45	1,381	1,235	1,090	0,946	1,372	1,229	1,088	0,947	1,363	1,224	1,086	0,948	1,345	1,214	1,082	0,951
	40	1,289	1,144	1,000	0,857	1,283	1,141	1,000	0,860	1,276	1,138	1,000	0,863	1,263	1,132	1,000	0,868
55	50	1,381	1,235	1,090	0,946	1,372	1,229	1,088	0,947	1,363	1,224	1,086	0,948	1,345	1,214	1,082	0,951
	45	1,289	1,144	1,000	0,857	1,283	1,141	1,000	0,860	1,276	1,138	1,000	0,863	1,263	1,132	1,000	0,868
	40	1,198	1,054	0,911	0,769	1,194	1,053	0,912	0,773	1,190	1,052	0,914	0,777	1,181	1,049	0,918	0,786
	35	1,108	0,964	0,822	0,682	1,106	0,965	0,825	0,687	1,103	0,966	0,829	0,692	1,099	0,967	0,835	0,703
50	45	1,198	1,054	0,911	0,769	1,194	1,053	0,912	0,773	1,190	1,052	0,914	0,777	1,181	1,049	0,918	0,786
	40	1,108	0,964	0,822	0,682	1,106	0,965	0,825	0,687	1,103	0,966	0,829	0,692	1,099	0,967	0,835	0,703
	35	1,018	0,875	0,734	0,595	1,018	0,878	0,739	0,601	1,017	0,880	0,743	0,607	1,016	0,885	0,753	0,620
45	40	1,018	0,875	0,734	0,595	1,018	0,878	0,739	0,601	1,017	0,880	0,743	0,607	1,016	0,885	0,753	0,620
	35	0,929	0,787	0,647	0,509	0,930	0,791	0,652	0,516	0,931	0,794	0,658	0,523	0,934	0,802	0,670	0,537
40	35	0,840	0,699	0,560	0,424	0,843	0,704	0,567	0,431	0,846	0,709	0,574	0,439	0,852	0,720	0,587	0,454
	30	0,752	0,612	0,475	0,340	0,756	0,618	0,482	0,348	0,760	0,624	0,489	0,355	0,769	0,637	0,504	0,371
35	30	0,664	0,526	0,390	0,258	0,670	0,533	0,398	0,265	0,675	0,540	0,405	0,272	0,687	0,554	0,421	0,288

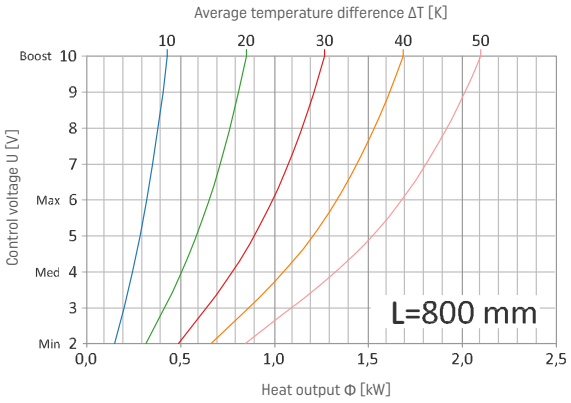
CORRECTIVE FACTORS FOR 140 mm HIGH CVK4 UNITS

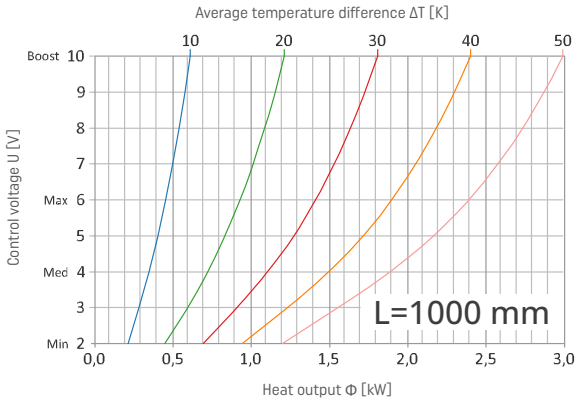
Heat output corrective factors for CVK4 140 mm high units for installation temperatures other than 55/45/20 °C for heating and 17/19/28 °C for cooling.

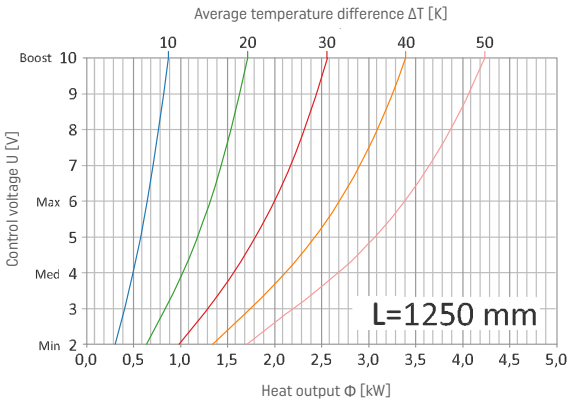
MODE OF OPERATION: COOLING																					
Supply and return temperatures [°C]		MIN					MED					MAX					BOOST				
		Room air temperature [°C]					Room air temperature [°C]					Room air temperature [°C]					Room air temperature [°C]				
t_s	t_r	24	25	26	27	28	24	25	26	27	28	24	25	26	27	28	24	25	26	27	28
6	8	1,736	1,842	1,948	2,055	2,162	1,657	1,750	1,842	1,934	2,026	1,582	1,662	1,741	1,820	1,899	1,441	1,499	1,556	1,612	1,667
	9	1,683	1,789	1,895	2,002	2,109	1,611	1,703	1,796	1,888	1,980	1,541	1,622	1,702	1,781	1,859	1,412	1,470	1,528	1,584	1,640
	10	1,630	1,736	1,842	1,948	2,055	1,564	1,657	1,750	1,842	1,934	1,501	1,582	1,662	1,741	1,820	1,382	1,441	1,499	1,556	1,612
	11	1,895	2,002	2,109	2,216	2,323	1,796	1,888	1,980	2,072	2,163	1,702	1,781	1,859	1,938	2,015	1,352	1,412	1,470	1,528	1,584
	12	1,524	1,630	1,736	1,842	1,948	1,471	1,564	1,657	1,750	1,842	1,420	1,501	1,582	1,662	1,741	1,322	1,382	1,441	1,499	1,556
7	9	1,630	1,736	1,842	1,948	2,055	1,564	1,657	1,750	1,842	1,934	1,501	1,582	1,662	1,741	1,820	1,382	1,441	1,499	1,556	1,612
	10	1,577	1,683	1,789	1,895	2,002	1,518	1,611	1,703	1,796	1,888	1,460	1,541	1,622	1,702	1,781	1,352	1,412	1,470	1,528	1,584
	11	1,524	1,630	1,736	1,842	1,948	1,471	1,564	1,657	1,750	1,842	1,420	1,501	1,582	1,662	1,741	1,322	1,382	1,441	1,499	1,556
	12	1,842	1,948	2,055	2,162	2,269	1,750	1,842	1,934	2,026	2,118	1,662	1,741	1,820	1,899	1,976	1,292	1,352	1,412	1,470	1,528
	13	1,419	1,524	1,630	1,736	1,842	1,377	1,471	1,564	1,657	1,750	1,337	1,420	1,501	1,582	1,662	1,261	1,322	1,382	1,441	1,499
8	10	1,524	1,630	1,736	1,842	1,948	1,471	1,564	1,657	1,750	1,842	1,420	1,501	1,582	1,662	1,741	1,322	1,382	1,441	1,499	1,556
	11	1,471	1,577	1,683	1,789	1,895	1,424	1,518	1,611	1,703	1,796	1,379	1,460	1,541	1,622	1,702	1,292	1,352	1,412	1,470	1,528
	12	1,419	1,524	1,630	1,736	1,842	1,377	1,471	1,564	1,657	1,750	1,337	1,420	1,501	1,582	1,662	1,261	1,322	1,382	1,441	1,499
	13	1,366	1,471	1,577	1,683	1,789	1,331	1,424	1,518	1,611	1,703	1,296	1,379	1,460	1,541	1,622	1,230	1,292	1,352	1,412	1,470
10	12	1,313	1,419	1,524	1,630	1,736	1,284	1,377	1,471	1,564	1,657	1,254	1,337	1,420	1,501	1,582	1,198	1,261	1,322	1,382	1,441
	13	1,261	1,366	1,471	1,577	1,683	1,237	1,331	1,424	1,518	1,611	1,213	1,296	1,379	1,460	1,541	1,166	1,230	1,292	1,352	1,412
	14	1,209	1,313	1,419	1,524	1,630	1,189	1,284	1,377	1,471	1,564	1,171	1,254	1,337	1,420	1,501	1,134	1,198	1,261	1,322	1,382
	15	1,156	1,261	1,366	1,471	1,577	1,142	1,237	1,331	1,424	1,518	1,128	1,213	1,296	1,379	1,460	1,101	1,166	1,230	1,292	1,352
12	14	1,104	1,209	1,313	1,419	1,524	1,095	1,189	1,284	1,377	1,471	1,086	1,171	1,254	1,337	1,420	1,068	1,134	1,198	1,261	1,322
	15	1,052	1,156	1,261	1,366	1,471	1,048	1,142	1,237	1,331	1,424	1,043	1,128	1,213	1,296	1,379	1,034	1,101	1,166	1,230	1,292
	16	1,000	1,104	1,209	1,313	1,419	1,000	1,095	1,189	1,284	1,377	1,000	1,086	1,171	1,254	1,337	1,000	1,068	1,134	1,198	1,261
	17	0,948	1,052	1,156	1,261	1,366	0,952	1,048	1,142	1,237	1,331	0,957	1,043	1,128	1,213	1,296	0,965	1,034	1,101	1,166	1,230
16	18	0,690	0,793	0,896	1,000	1,104	0,712	0,809	0,905	1,000	1,095	0,735	0,825	0,913	1,000	1,086	0,782	0,858	0,930	1,000	1,068
	19	0,639	0,742	0,845	0,948	1,052	0,664	0,761	0,857	0,952	1,048	0,689	0,780	0,869	0,957	1,043	0,743	0,820	0,894	0,965	1,034
17	19	0,588	0,690	0,793	0,896	1,000	0,615	0,712	0,809	0,905	1,000	0,643	0,735	0,825	0,913	1,000	0,703	0,782	0,858	0,930	1,000
	20	0,537	0,639	0,742	0,845	0,948	0,566	0,664	0,761	0,857	0,952	0,597	0,689	0,780	0,869	0,957	0,662	0,743	0,820	0,894	0,965
19	21	0,386	0,487	0,588	0,690	0,793	0,418	0,517	0,615	0,712	0,809	0,453	0,549	0,643	0,735	0,825	0,532	0,620	0,703	0,782	0,858
	22	0,336	0,436	0,537	0,639	0,742	0,368	0,468	0,566	0,664	0,761	0,404	0,502	0,597	0,689	0,780	0,485	0,577	0,662	0,743	0,820

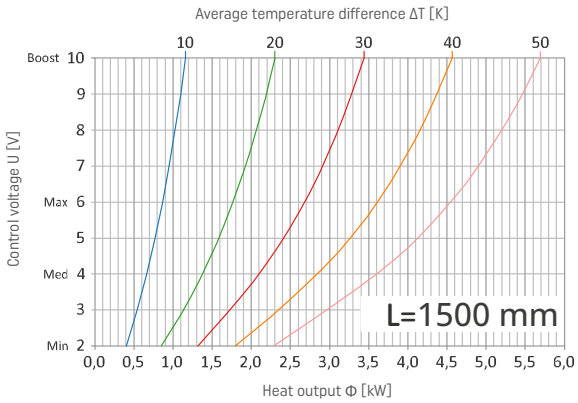
HEATING OUTPUT OF CVK4-14/29/L

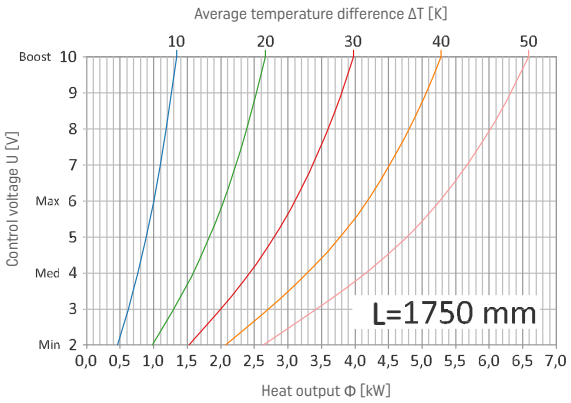
The graphs present how heat output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].

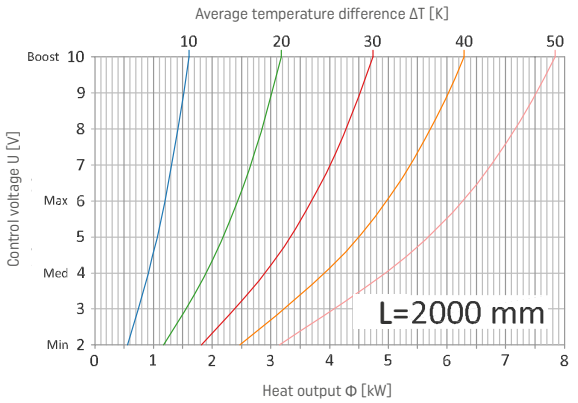






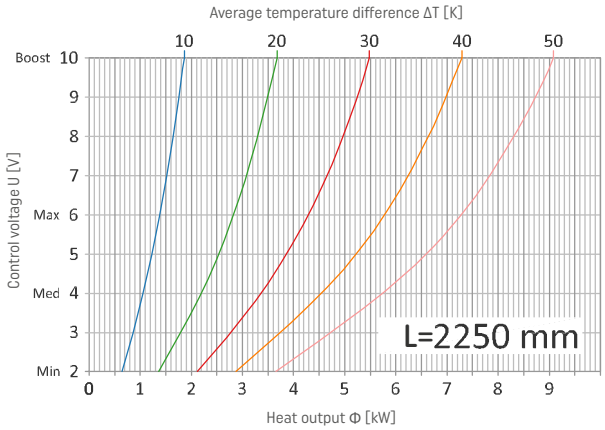


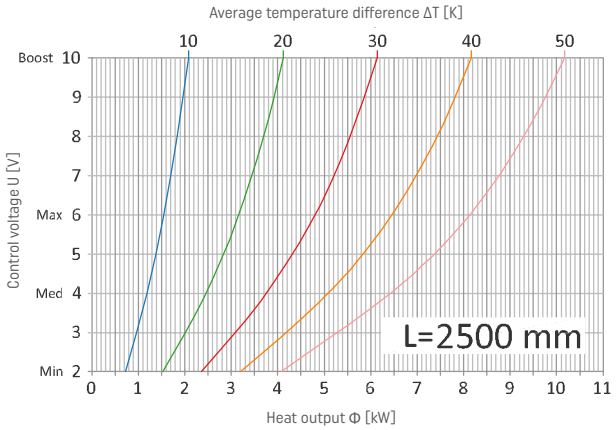


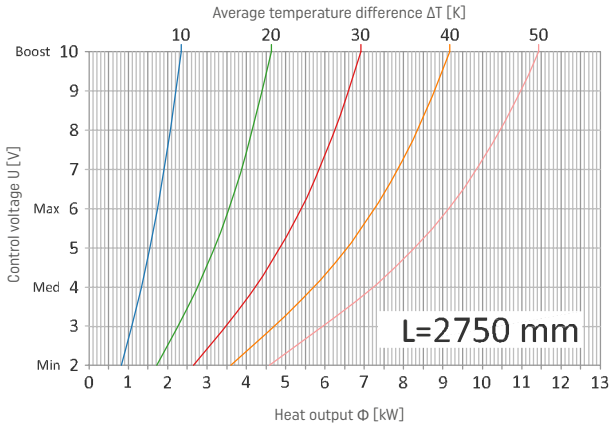


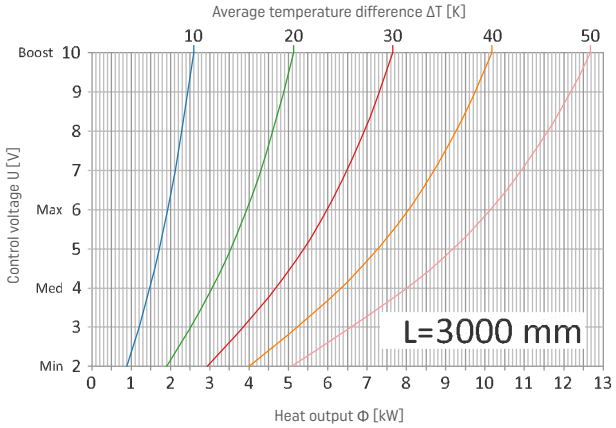
HEATING OUTPUT OF CVK4-14/29/L

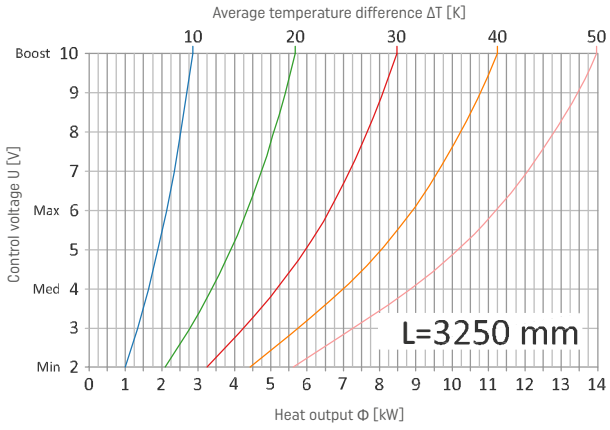
The graphs present how heat output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].





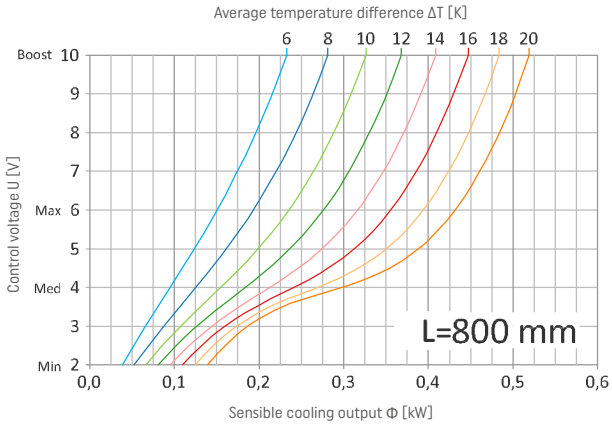


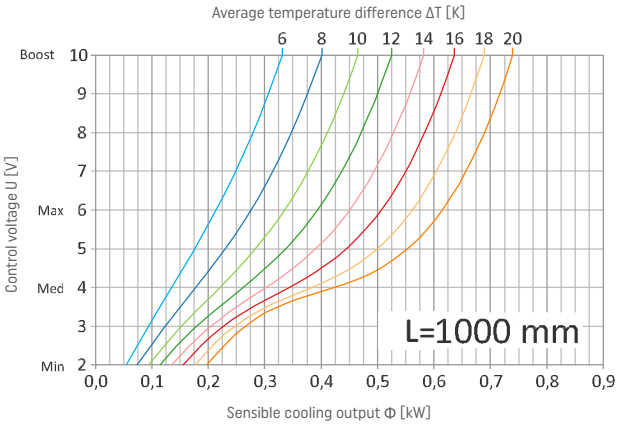


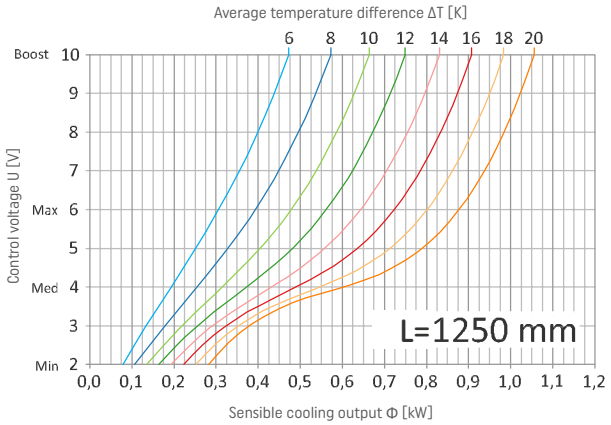


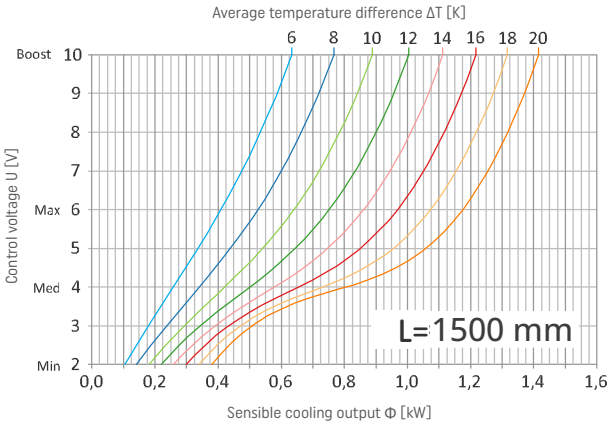
COOLING OUTPUT OF CVK4-14/29/L

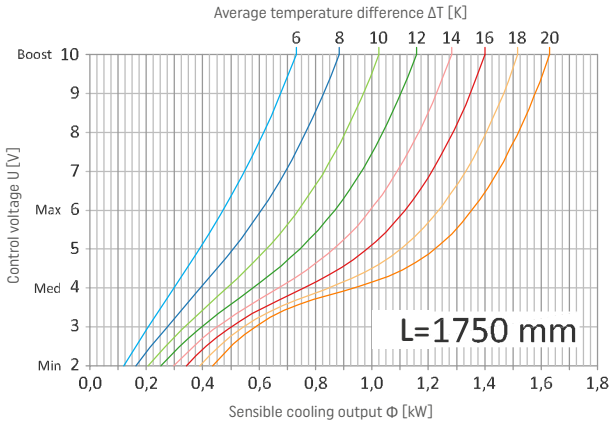
The graphs present how cooling output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].

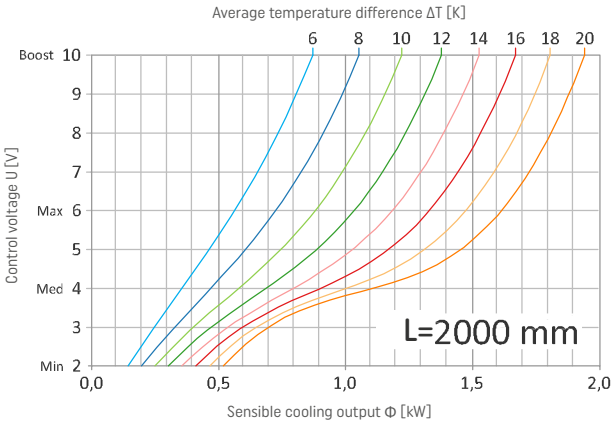






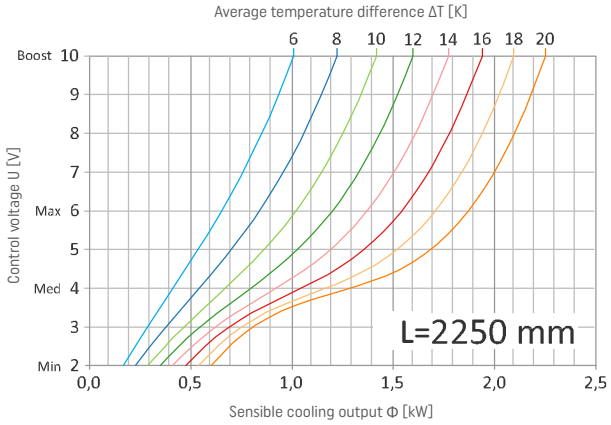


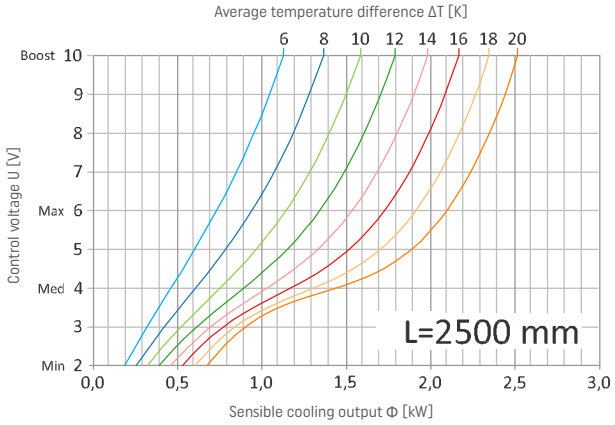


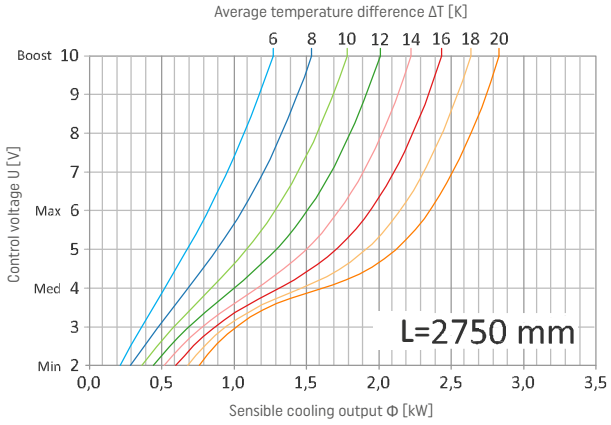


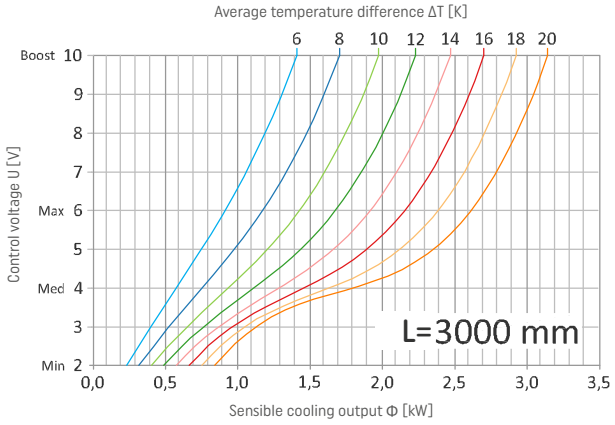
COOLING OUTPUT OF CVK4-14/29/L

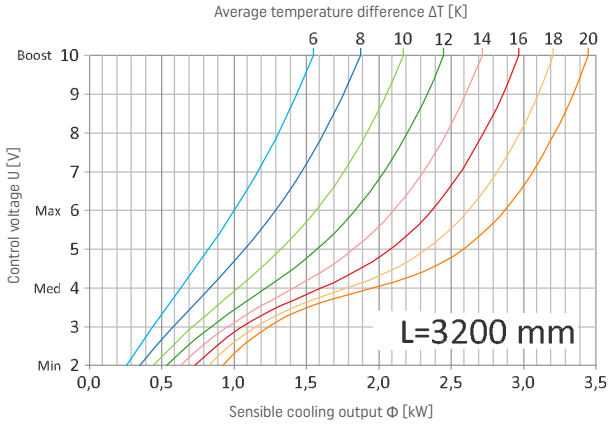
The graphs present how cooling output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].











CVK4 180 mm HIGH

PRODUCT VISUALIZATION

EQUIPMENT

STANDARD EQUIPMENT:

- w casing made of galvanized steel sheet in black colour - RAL 9005,
- highly efficient cooper-aluminium heat exchanger with air vent,
- modern fan with silent and efficient 24V DC, EC motor,
- connection space cover,
- fan cover with airflow baffle,
- water connection: 3/4" female thread,
- trench struts,
- levelling legs,
- condensate drain pan,
- connection stub for condensate drainage installation (only for gravity option).

ADDITIONAL EQUIPMENT:

- decorative frame (L or F type) made of natural or anodized aluminium or painted in RAL colour,
- decorative grille made of natural or anodized aluminium, roll-up or linear type,
- condensate pump,
- assembly protection fibreboard for transporting and installation,
- raised floor kit,
- casing protective film,
- foil sleeve for heat exchanger,
- anti dust filter (requires rasing the trench by 10 mm),
- BMS controls.

DIMENSIONS

DIMENSIONS	[mm]
Trench height (H)	180
Trench bottom width (B)	320
Top width / Grille width (Bk)	354
Trench length (L)	800 ÷ 3250

Istnieje możliwość wykonania wanny klimakonwektora o długości niestandardowej (NS)

ORDER CODE:

CVK4-18/32/100 (L)

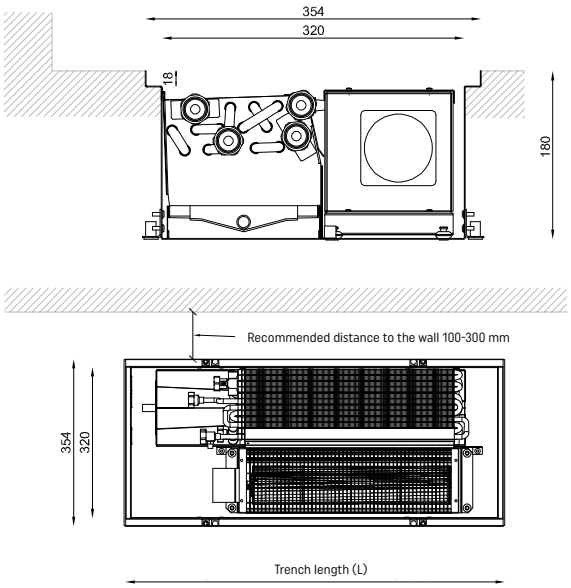
Trench height: (H) [cm]
Trench width: (B) [cm]
Trench Length: Lk [cm]
Connection side: L- Left / P-Right

HIGH 180 mm

CVK4-18/32/L (L/P)

ORDER CODE

DIMENSIONS	[mm]
Trench height (H)	180
Trench bottom width (B)	**320**
Top width / Grille width (Bk)	354
Trench length (L)	800÷3250
CONNECTION	**TYPE**
Connection thread	3/4" female thread
Connection side	Left (L) standard, Right (P) option
ACCESSORIES	**TYPE**
Grille high 18 mm	Roll-up – standard Linear/Modular – optional
Frame	L or F
Additional accessories	• Condensate pump (requires 100mm trench casing extension in length) • Protective fibreboard cover • Mounting kit for raised floors • Adjustable edge trim • Air filter (requires 100mm trench casing extension in high)



Trench length	Operating mode	Heat output for $t_s/t_r/t_i$ °C			Cooling sensible output for $t_s/t_r/\theta_a$ °C		Total cooling output for $t_s/t_r/t_i$ °C		Air volume flow	SFP Value	Sound pressure level	Sound power level	Electric power demand	Fan current	Max. Fan starting current	Number of fan motors
		55/45/20	45/40/20	35/30/20	17/19/28	7/12/27	17/19/28	7/12/27								
L [mm]	[-]	Φ [W]			Φ [W]		Φ [W]		Q [m³/h]	[Ws/m³]	Lp [dB(A)]	Lw [dB(A)]	P [W]	I [A]	I [A]	[-]
800	Min	504	369	204	144	245	144	322	64	81	19	27	1,4	0,06	0,8	1
	Med	755	556	310	305	506	305	656	141	80	32	40	3,1	0,13		
	Max	928	688	388	455	738	455	947	217	100	43	51	6,0	0,25		
	Boost	1143	857	495	703	1091	703	1379	343	202	57	65	19,2	0,80		
1000	Min	711	520	287	203	345	203	453	87	60	19	27	1,4	0,06	2,1	1
	Med	1064	784	437	430	713	430	936	194	62	32	40	3,4	0,14		
	Max	1308	969	547	641	1040	641	1342	299	84	43	51	7,0	0,29		
	Boost	1610	1207	698	991	1537	991	1949	471	196	57	65	25,7	1,07		
1250	Min	986	722	398	281	478	281	629	119	102	30	38	3,4	0,14	3,4	1
	Med	1476	1087	607	596	989	596	1294	266	94	40	48	7,0	0,29		
	Max	1815	1345	759	889	1443	889	1869	409	110	47	55	12,5	0,52		
	Boost	2233	1675	968	1374	2132	1374	2717	643	163	57	65	29,0	1,21		
1550	Min	1364	999	551	389	661	389	868	151	69	22	30	2,9	0,12	2,9	2
	Med	2042	1504	840	824	1369	824	1786	335	70	35	43	6,5	0,27		
	Max	2511	1861	1050	1230	1997	1230	2570	516	90	46	54	13,0	0,54		
	Boost	3090	2318	1339	1901	2951	1901	3736	814	198	60	68	44,9	1,87		
1750	Min	1571	1150	634	448	761	448	999	174	60	22	30	2,9	0,12	4,2	2
	Med	2351	1732	967	949	1576	949	2069	388	62	35	43	6,7	0,28		
	Max	2891	2142	1209	1416	2299	1416	2967	598	84	46	54	13,9	0,58		
	Boost	3558	2668	1541	2189	3397	2189	4308	942	196	60	68	51,4	2,14		
2000	Min	1846	1351	746	527	895	527	1176	206	84	30	38	4,8	0,20	5,5	2
	Med	2763	2035	1136	1115	1852	1115	2427	460	81	41	49	10,3	0,43		
	Max	3397	2517	1421	1664	2701	1664	3492	708	99	49	57	19,4	0,81		
	Boost	4181	3135	1811	2572	3992	2572	5075	1114	177	60	68	54,7	2,28		
2250	Min	2121	1553	857	605	1028	605	1353	238	102	33	41	6,7	0,28	6,8	2
	Med	3175	2339	1305	1282	2128	1282	2784	532	94	43	51	13,9	0,58		
	Max	3904	2892	1633	1912	3104	1912	4020	818	110	50	58	25,0	1,04		
	Boost	4804	3603	2081	2956	4587	2956	5846	1286	163	60	68	58,1	2,42		
2500	Min	2430	1779	982	694	1178	694	1547	261	60	24	32	4,3	0,18	6,3	3
	Med	3638	2680	1496	1469	2438	1469	3201	582	62	37	45	10,1	0,42		
	Max	4473	3315	1871	2191	3557	2191	4590	897	84	48	56	20,9	0,87		
	Boost	5505	4129	2385	3387	5256	3387	6665	1413	196	62	70	77,0	3,21		
2750	Min	2705	1981	1093	772	1311	772	1723	293	77	31	39	6,2	0,26	7,6	3
	Med	4050	2983	1665	1635	2714	1635	3559	654	75	41	49	13,7	0,57		
	Max	4980	3690	2083	2439	3960	2439	5116	1007	94	50	58	26,4	1,10		
	Boost	6129	4596	2655	3771	5851	3771	7432	1585	183	62	70	80,4	3,35		
3000	Min	2981	2182	1204	851	1445	851	1900	325	90	33	41	8,2	0,34	8,9	3
	Med	4462	3287	1834	1801	2990	1801	3916	726	86	43	51	17,3	0,72		
	Max	5486	4065	2295	2687	4362	2687	5643	1117	103	51	59	31,9	1,33		
	Boost	6752	5063	2925	4154	6446	4154	8201	1757	172	62	70	83,8	3,49		
3250	Min	3256	2384	1315	929	1578	929	2076	357	102	35	43	10,1	0,42	10,2	3
	Med	4874	3590	2004	1967	3266	1967	4273	798	94	45	53	20,9	0,87		
	Max	5992	4440	2507	2935	4765	2935	6172	1227	110	52	60	37,4	1,56		
	Boost	7375	5531	3195	4538	7042	4538	8974	1929	163	62	70	87,1	3,63		

- Standard heating and cooling output [W] compliant to EN-16430.
- Cooling output according to the relative humidity 47%.
- Control voltages for the respective modes of operation: Min – 2 V, Med – 4 V, Max – 6 V, Boost – 10 V.
- Min, Med, Max fan speeds are for continuous operations, the Boost mode is for speed heating or cooling.
- Sound power level according to ISO-3745 standard, sound pressure level measured at distance of 2 m to the heater, in a 100 m3 volume room. Reverb time - 0,5 s, room damping - 8 dB(A).

CORRECTIVE FACTORS FOR 180 mm HIGH CVK4 UNITS

Heat output corrective factors for CVK4 180 mm high units for installation temperatures other than 55/45/20 °C for heating and 17/19/28 °C for cooling.

MODE OF OPERATION: HEATING																	
Supply and return temperatures [°C]		MIN				MED				MAX				BOOST			
		Room air temperature [°C]				Room air temperature [°C]				Room air temperature [°C]				Room air temperature [°C]			
t_s	t_r	12	16	20	24	12	16	20	24	12	16	20	24	12	16	20	24
75	70	2,139	1,986	1,834	1,683	2,108	1,960	1,813	1,666	2,077	1,934	1,792	1,650	2,017	1,884	1,750	1,617
	65	2,043	1,891	1,740	1,589	2,015	1,868	1,721	1,575	1,988	1,845	1,703	1,561	1,934	1,800	1,667	1,534
	60	1,948	1,796	1,646	1,496	1,923	1,776	1,630	1,484	1,899	1,756	1,614	1,473	1,850	1,717	1,584	1,450
	55	1,853	1,702	1,552	1,403	1,831	1,685	1,539	1,394	1,809	1,667	1,526	1,385	1,767	1,634	1,500	1,367
70	65	1,948	1,796	1,646	1,496	1,923	1,776	1,630	1,484	1,899	1,756	1,614	1,473	1,850	1,717	1,584	1,450
	60	1,853	1,702	1,552	1,403	1,831	1,685	1,539	1,394	1,809	1,667	1,526	1,385	1,767	1,634	1,500	1,367
	55	1,759	1,608	1,459	1,310	1,739	1,593	1,448	1,304	1,721	1,579	1,438	1,297	1,684	1,550	1,417	1,283
	50	1,664	1,515	1,366	1,218	1,648	1,502	1,358	1,214	1,632	1,490	1,350	1,209	1,600	1,467	1,333	1,200
65	60	1,759	1,608	1,459	1,310	1,739	1,593	1,448	1,304	1,721	1,579	1,438	1,297	1,684	1,550	1,417	1,283
	55	1,664	1,515	1,366	1,218	1,648	1,502	1,358	1,214	1,632	1,490	1,350	1,209	1,600	1,467	1,333	1,200
	50	1,571	1,422	1,274	1,127	1,557	1,412	1,268	1,124	1,543	1,402	1,262	1,122	1,517	1,383	1,250	1,117
	45	1,477	1,329	1,182	1,036	1,466	1,322	1,178	1,035	1,455	1,314	1,174	1,035	1,433	1,300	1,167	1,033
60	55	1,571	1,422	1,274	1,127	1,557	1,412	1,268	1,124	1,543	1,402	1,262	1,122	1,517	1,383	1,250	1,117
	50	1,477	1,329	1,182	1,036	1,466	1,322	1,178	1,035	1,455	1,314	1,174	1,035	1,433	1,300	1,167	1,033
	45	1,384	1,237	1,091	0,946	1,376	1,232	1,089	0,947	1,367	1,227	1,087	0,948	1,350	1,217	1,083	0,950
	40	1,292	1,145	1,000	0,856	1,286	1,142	1,000	0,859	1,279	1,139	1,000	0,861	1,267	1,133	1,000	0,867
55	50	1,384	1,237	1,091	0,946	1,376	1,232	1,089	0,947	1,367	1,227	1,087	0,948	1,350	1,217	1,083	0,950
	45	1,292	1,145	1,000	0,856	1,286	1,142	1,000	0,859	1,279	1,139	1,000	0,861	1,267	1,133	1,000	0,867
	40	1,200	1,054	0,910	0,767	1,196	1,053	0,912	0,771	1,192	1,052	0,913	0,775	1,183	1,050	0,917	0,783
	35	1,109	0,964	0,821	0,679	1,107	0,965	0,824	0,684	1,104	0,965	0,827	0,690	1,100	0,967	0,833	0,700
50	45	1,200	1,054	0,910	0,767	1,196	1,053	0,912	0,771	1,192	1,052	0,913	0,775	1,183	1,050	0,917	0,783
	40	1,109	0,964	0,821	0,679	1,107	0,965	0,824	0,684	1,104	0,965	0,827	0,690	1,100	0,967	0,833	0,700
	35	1,018	0,874	0,732	0,592	1,018	0,876	0,737	0,598	1,017	0,879	0,741	0,604	1,017	0,883	0,750	0,617
45	40	1,018	0,874	0,732	0,592	1,018	0,876	0,737	0,598	1,017	0,879	0,741	0,604	1,017	0,883	0,750	0,617
	35	0,928	0,785	0,644	0,506	0,929	0,789	0,650	0,513	0,931	0,793	0,655	0,519	0,933	0,800	0,667	0,533
40	35	0,838	0,697	0,558	0,421	0,841	0,702	0,564	0,428	0,844	0,707	0,570	0,435	0,850	0,717	0,583	0,450
	30	0,750	0,610	0,472	0,337	0,754	0,615	0,479	0,344	0,758	0,621	0,486	0,352	0,767	0,633	0,500	0,367
35	30	0,662	0,523	0,387	0,255	0,667	0,530	0,394	0,262	0,672	0,536	0,402	0,269	0,683	0,550	0,417	0,283

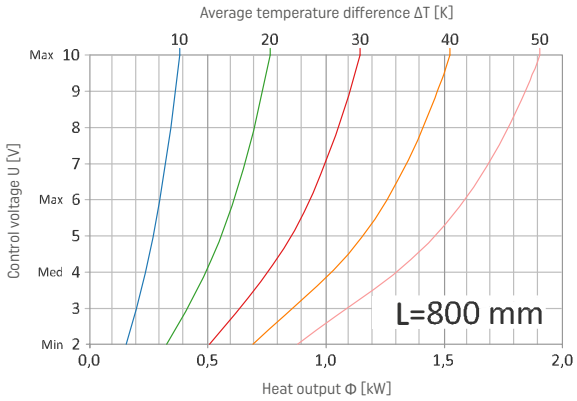
CORRECTIVE FACTORS FOR 180 mm HIGH CVK4 UNITS

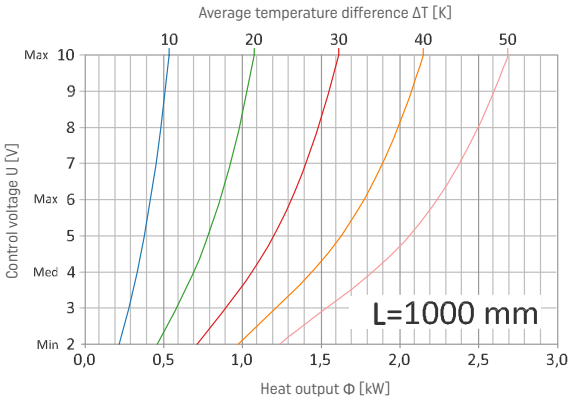
Heat output corrective factors for CVK4 180 mm high units for installation temperatures other than 55/45/20 °C for heating and 17/19/28 °C for cooling.

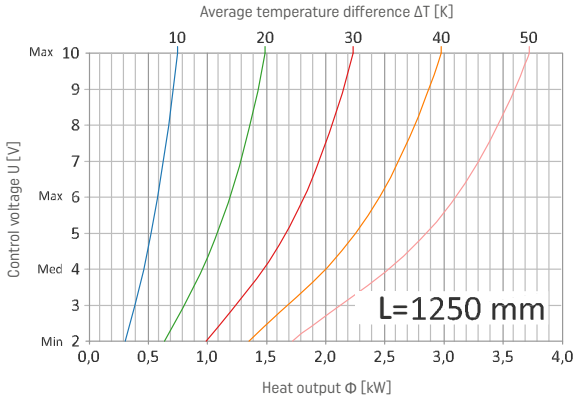
MODE OF OPERATION: COOLING																					
Supply and return temperatures [°C]		MIN					MED					MAX					BOOST				
		Room air temperature [°C]					Room air temperature [°C]					Room air temperature [°C]					Room air temperature [°C]				
t_s	t_r	24	25	26	27	28	24	25	26	27	28	24	25	26	27	28	24	25	26	27	28
6	8	1,652	1,744	1,835	1,927	2,018	1,617	1,703	1,789	1,874	1,958	1,583	1,663	1,743	1,822	1,901	1,517	1,586	1,655	1,723	1,791
	9	1,606	1,698	1,790	1,881	1,972	1,574	1,660	1,746	1,831	1,916	1,543	1,623	1,703	1,783	1,862	1,482	1,552	1,621	1,689	1,757
	10	1,560	1,652	1,744	1,835	1,927	1,531	1,617	1,703	1,789	1,874	1,502	1,583	1,663	1,743	1,822	1,446	1,517	1,586	1,655	1,723
	11	1,790	1,881	1,972	2,063	2,154	1,746	1,831	1,916	2,001	2,085	1,703	1,783	1,862	1,940	2,018	1,411	1,482	1,552	1,621	1,689
	12	1,468	1,560	1,652	1,744	1,835	1,444	1,531	1,617	1,703	1,789	1,420	1,502	1,583	1,663	1,743	1,375	1,446	1,517	1,586	1,655
7	9	1,560	1,652	1,744	1,835	1,927	1,531	1,617	1,703	1,789	1,874	1,502	1,583	1,663	1,743	1,822	1,446	1,517	1,586	1,655	1,723
	10	1,514	1,606	1,698	1,790	1,881	1,487	1,574	1,660	1,746	1,831	1,461	1,543	1,623	1,703	1,783	1,411	1,482	1,552	1,621	1,689
	11	1,468	1,560	1,652	1,744	1,835	1,444	1,531	1,617	1,703	1,789	1,420	1,502	1,583	1,663	1,743	1,375	1,446	1,517	1,586	1,655
	12	1,744	1,835	1,927	2,018	2,109	1,703	1,789	1,874	1,958	2,043	1,663	1,743	1,822	1,901	1,979	1,339	1,411	1,482	1,552	1,621
	13	1,375	1,468	1,560	1,652	1,744	1,356	1,444	1,531	1,617	1,703	1,338	1,420	1,502	1,583	1,663	1,302	1,375	1,446	1,517	1,586
8	10	1,468	1,560	1,652	1,744	1,835	1,444	1,531	1,617	1,703	1,789	1,420	1,502	1,583	1,663	1,743	1,375	1,446	1,517	1,586	1,655
	11	1,421	1,514	1,606	1,698	1,790	1,400	1,487	1,574	1,660	1,746	1,379	1,461	1,543	1,623	1,703	1,339	1,411	1,482	1,552	1,621
	12	1,375	1,468	1,560	1,652	1,744	1,356	1,444	1,531	1,617	1,703	1,338	1,420	1,502	1,583	1,663	1,302	1,375	1,446	1,517	1,586
	13	1,328	1,421	1,514	1,606	1,698	1,312	1,400	1,487	1,574	1,660	1,297	1,379	1,461	1,543	1,623	1,266	1,339	1,411	1,482	1,552
10	12	1,282	1,375	1,468	1,560	1,652	1,268	1,356	1,444	1,531	1,617	1,255	1,338	1,420	1,502	1,583	1,229	1,302	1,375	1,446	1,517
	13	1,235	1,328	1,421	1,514	1,606	1,224	1,312	1,400	1,487	1,574	1,213	1,297	1,379	1,461	1,543	1,191	1,266	1,339	1,411	1,482
	14	1,188	1,282	1,375	1,468	1,560	1,180	1,268	1,356	1,444	1,531	1,171	1,255	1,338	1,420	1,502	1,154	1,229	1,302	1,375	1,446
	15	1,141	1,235	1,328	1,421	1,514	1,135	1,224	1,312	1,400	1,487	1,129	1,213	1,297	1,379	1,461	1,116	1,191	1,266	1,339	1,411
12	14	1,094	1,188	1,282	1,375	1,468	1,090	1,180	1,268	1,356	1,444	1,086	1,171	1,255	1,338	1,420	1,078	1,154	1,229	1,302	1,375
	15	1,047	1,141	1,235	1,328	1,421	1,045	1,135	1,224	1,312	1,400	1,043	1,129	1,213	1,297	1,379	1,039	1,116	1,191	1,266	1,339
	16	1,000	1,094	1,188	1,282	1,375	1,000	1,090	1,180	1,268	1,356	1,000	1,086	1,171	1,255	1,338	1,000	1,078	1,154	1,229	1,302
	17	0,953	1,047	1,141	1,235	1,328	0,955	1,045	1,135	1,224	1,312	0,957	1,043	1,129	1,213	1,297	0,961	1,039	1,116	1,191	1,266
16	18	0,714	0,810	0,905	1,000	1,094	0,724	0,817	0,909	1,000	1,090	0,734	0,824	0,913	1,000	1,086	0,756	0,839	0,921	1,000	1,078
	19	0,665	0,762	0,857	0,953	1,047	0,677	0,771	0,863	0,955	1,045	0,689	0,780	0,869	0,957	1,043	0,713	0,798	0,880	0,961	1,039
17	19	0,617	0,714	0,810	0,905	1,000	0,630	0,724	0,817	0,909	1,000	0,643	0,734	0,824	0,913	1,000	0,670	0,756	0,839	0,921	1,000
	20	0,568	0,665	0,762	0,857	0,953	0,582	0,677	0,771	0,863	0,955	0,596	0,689	0,780	0,869	0,957	0,625	0,713	0,798	0,880	0,961
19	21	0,420	0,519	0,617	0,714	0,810	0,436	0,534	0,630	0,724	0,817	0,452	0,549	0,643	0,734	0,824	0,487	0,580	0,670	0,756	0,839
	22	0,370	0,470	0,568	0,665	0,762	0,386	0,485	0,582	0,677	0,771	0,403	0,501	0,596	0,689	0,780	0,439	0,534	0,625	0,713	0,798

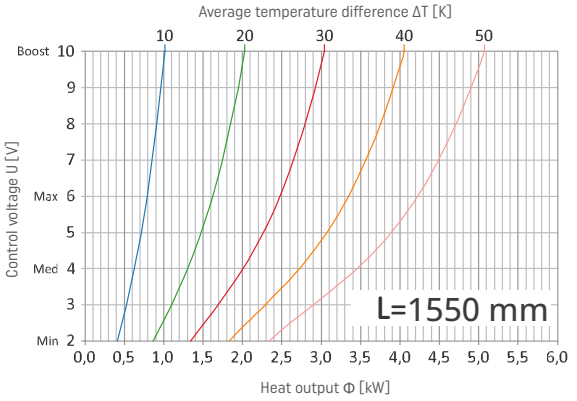
HEATING OUTPUT OF CVK4-18/32/L

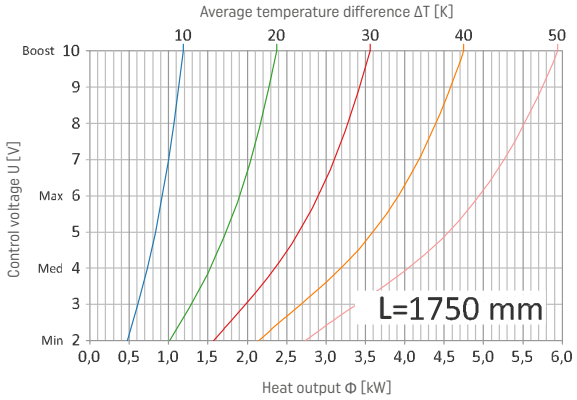
The graphs present how heat output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].

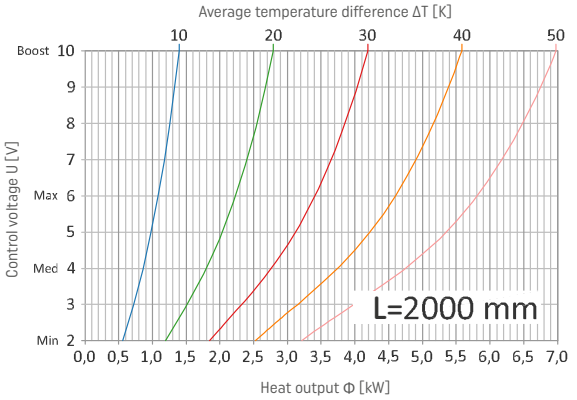






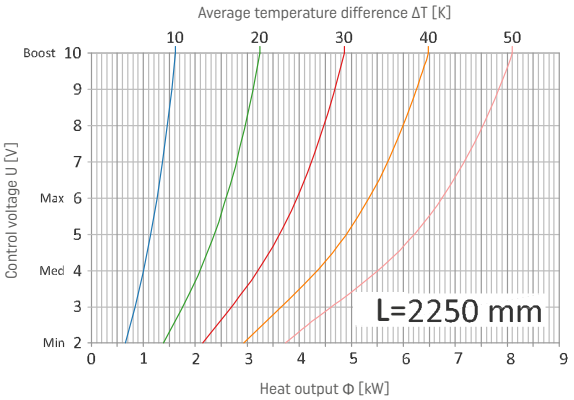


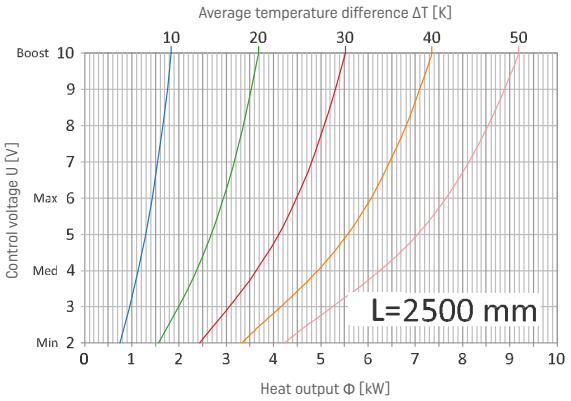


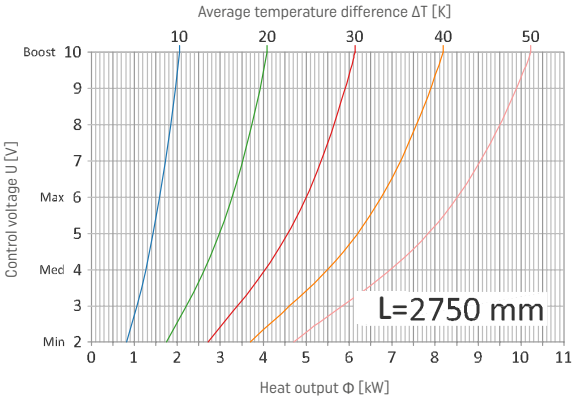


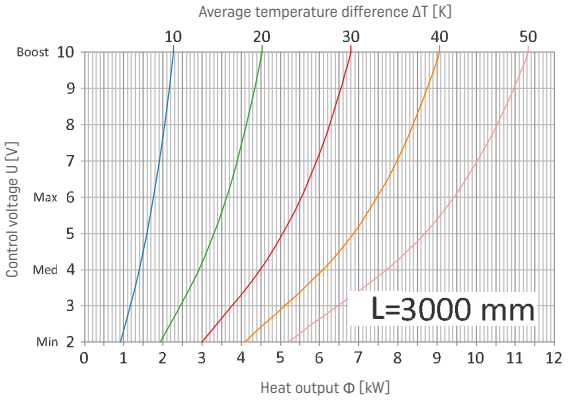
HEATING OUTPUT OF CVK4-18/32/L

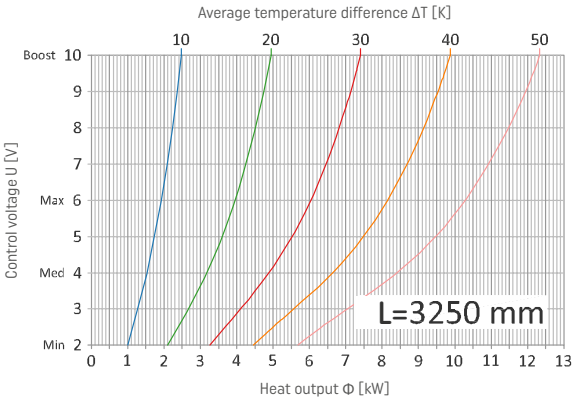
The graphs present how heat output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].





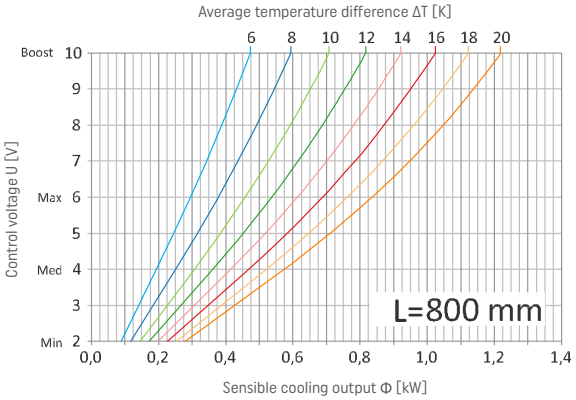


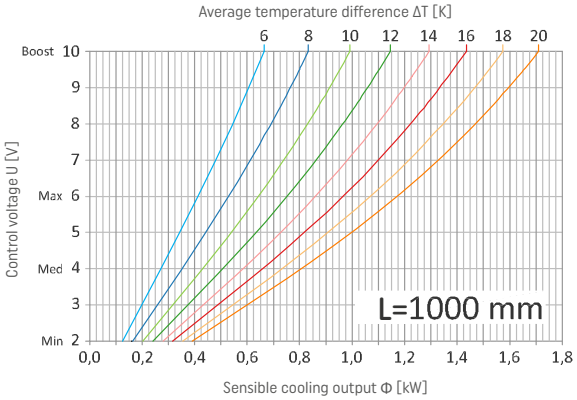


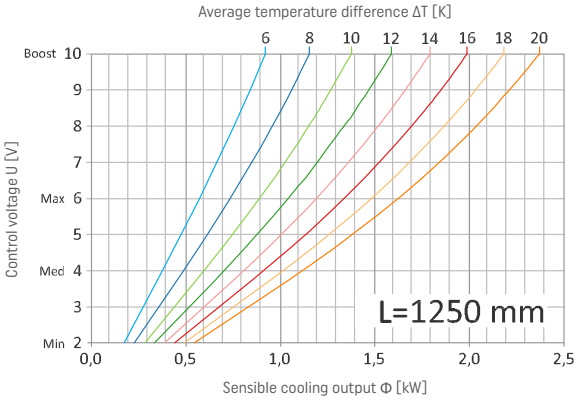


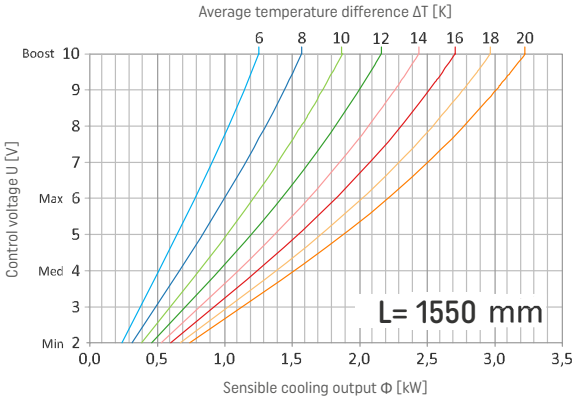
COOLING OUTPUT OF CVK4-18/32/L

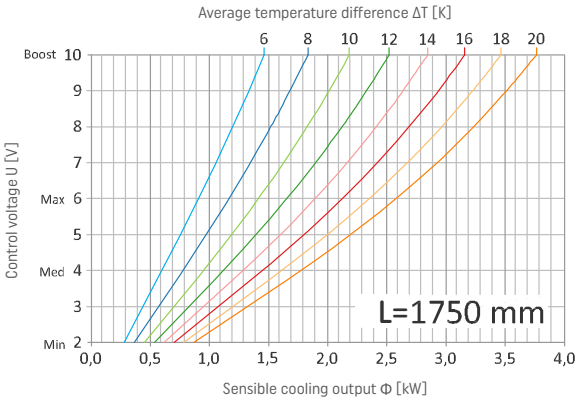
The graphs present how cooling output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].

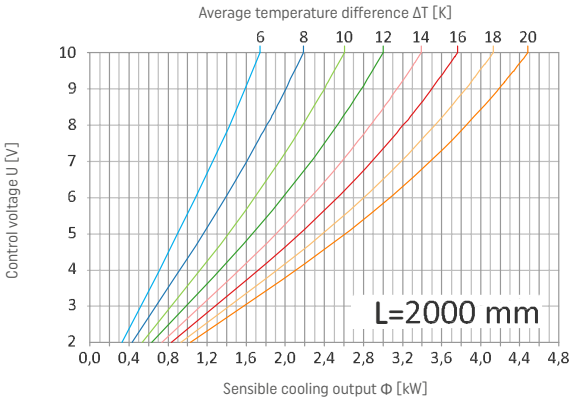






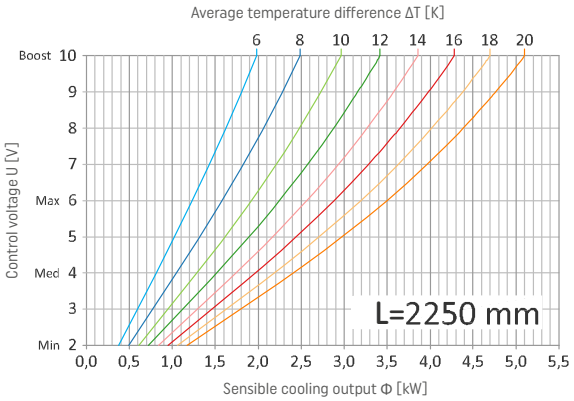


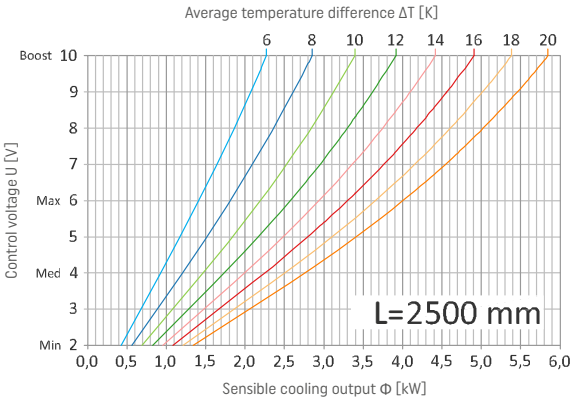


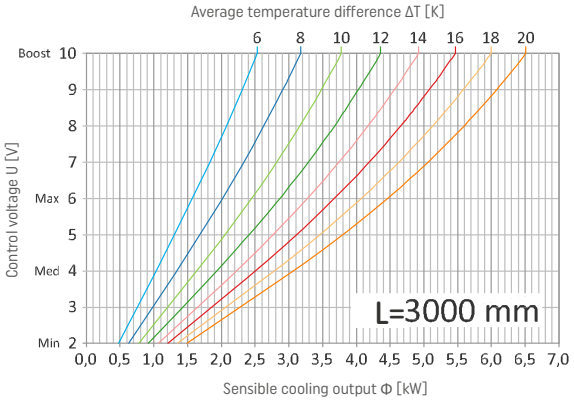


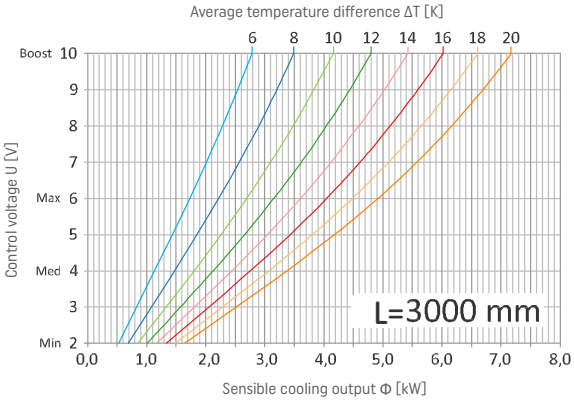
COOLING OUTPUT OF CVK4-18/32/L

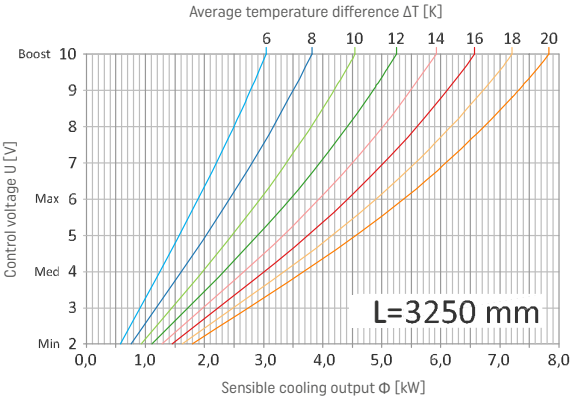
The graphs present how cooling output Φ [W] depends on the respective average temperature differences ΔT [K], for control voltages U [V].











CVK4 WATER CAPACITY

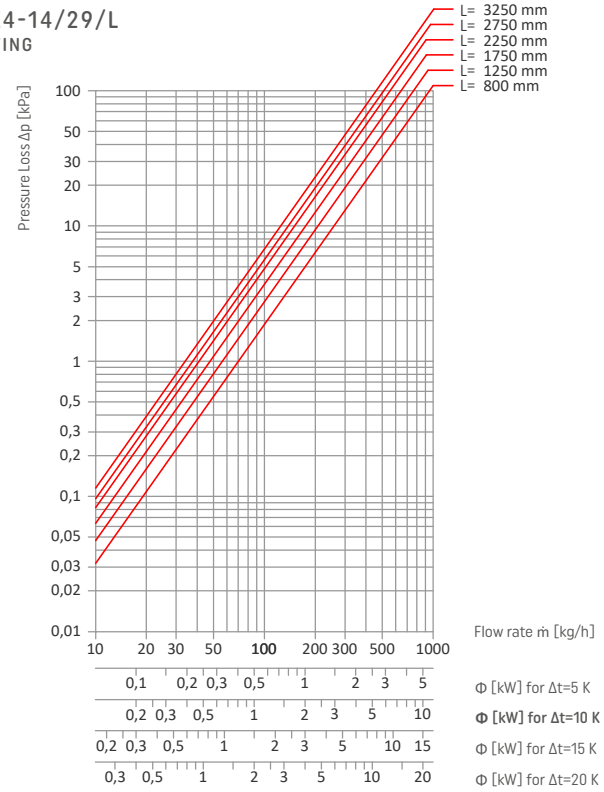
HEATER TYPE	CVK4-14/29/L		CVK4-18/32/L	
OPERATING MODE	HEATING	COOLING	HEATING	COOLING
TRENCH LENGTH L [mm]	WATER CAPACITY [dm³]	WATER CAPACITY [dm³]	WATER CAPACITY [dm³]	WATER CAPACITY [dm³]
800	0,21	0,44	0,18	0,53
1000	0,28	0,58	0,22	0,70
1250	0,38	0,79	0,28	0,91
1550	0,50	1,01	0,37	1,21
1750	0,57	1,15	0,42	1,38
2000	0,67	1,36	0,48	1,60
2250	0,77	1,56	0,54	1,82
2500	0,85	1,72	0,61	2,06
2700	0,95	1,93	0,67	2,28
3000	1,06	2,13	0,74	2,50
3250	1,16	2,33	0,80	2,72

DECLARED PROPERTIES

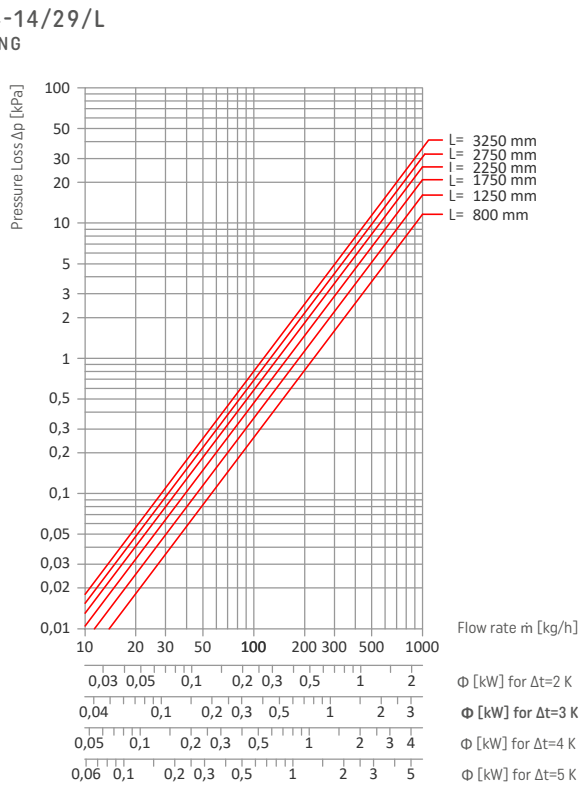
- Maximum permissible operating pressure: **1,0 MPa.**
- Test pressure: **1,3 MPa.**
- Maximum hydraulic pressure: **1,69 MPa.**
- Minimum operating temperature: **6 °C**
- Maximum operating temperature: **110 °C**

PRESSURE LOSS

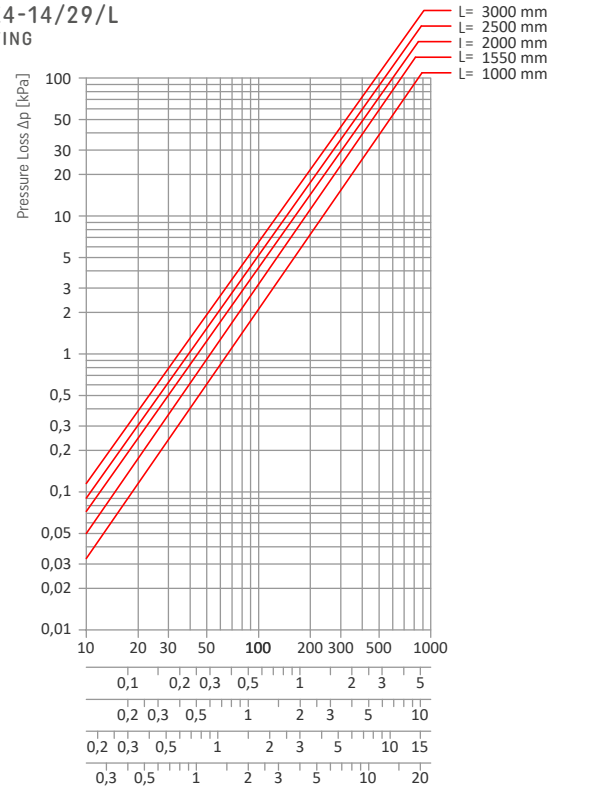
CVK4-14/29/L
HEATING



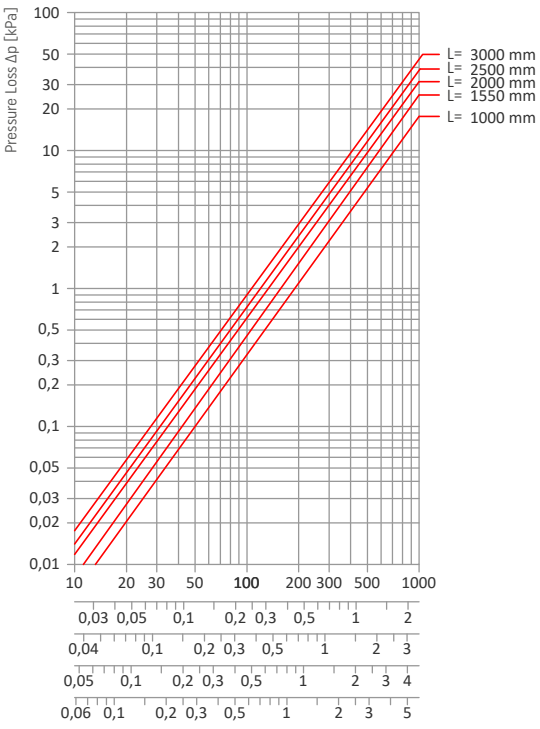
CVK4-14/29/L
COOLING



CVK4-14/29/L
HEATING

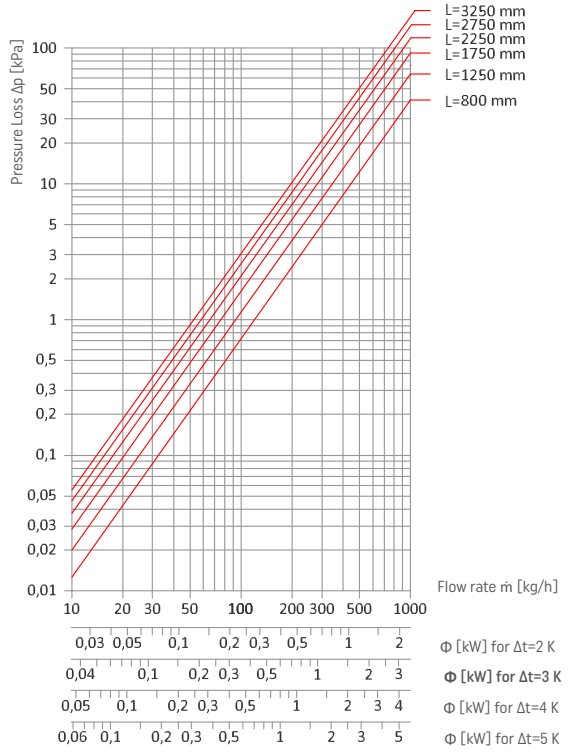


CVK4-14/29/L
COOLING

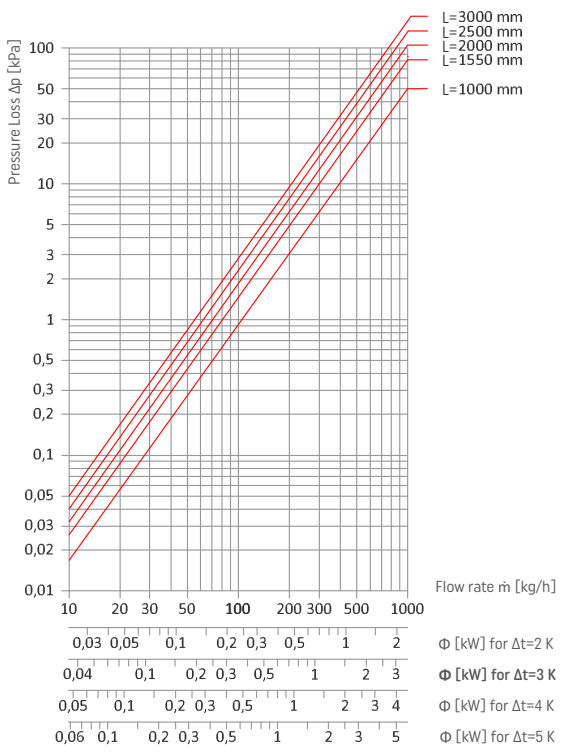


PRESSURE LOSS

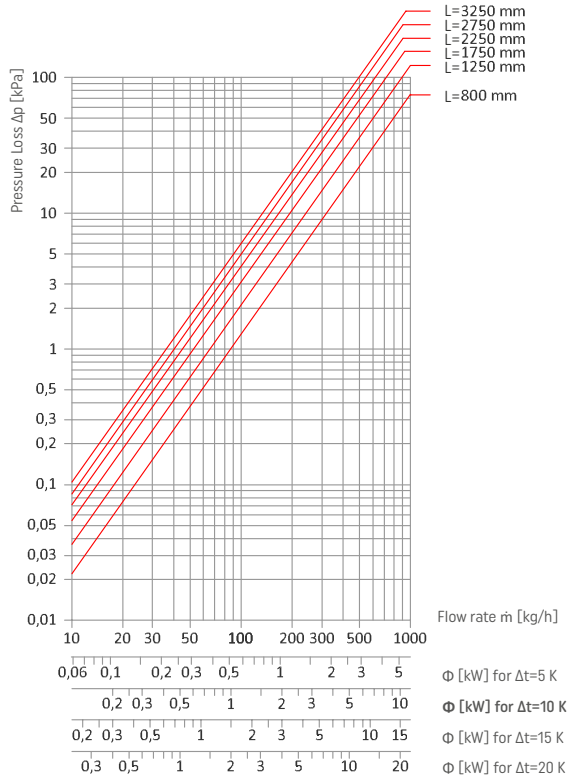
CVK4-18/32/L
HEATING



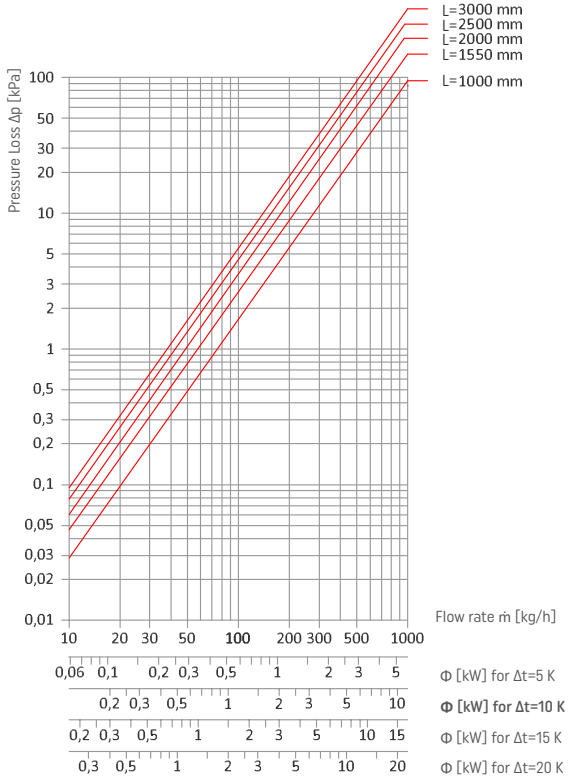
CVK4-18/32/L
COOLING



CVK4-18/32/L
HEATING



CVK4-18/32/L
COOLING



UNIT SELECTION

The selection of heating and cooling unit should be based on the sensible cooling power.
To determine the heating power, proceed in the same way as in the case of cooling power.

An example:

Required sensible cooling output: 845 W.
Example calculations for the following convector: CVK2-18/32/L.
Installation temperatures: $t_s/t_r/\Theta_{ii}$ = 12/16/26°C.

- **METHOD 1**
  BASED ON CONVERSION FACTORS.

Read out the correct conversion factor for the project installation temperatures. In this case, the conversion factor is 1.189 (for CVK2-18/32/L).

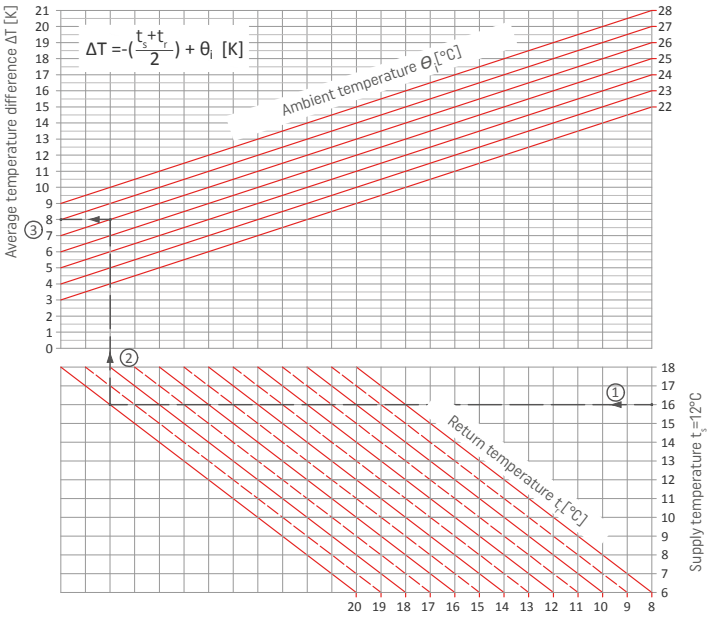
Next, divide the calculated heat demand (845 W) by the selected correction factor (1.225), resulting in a cooling capacity of 690 W, which is used to select a suitable radiator for parameters 17/19/28°C.

The final step is to choose a radiator with the appropriate dimensions for the room, such as the CVK2-18/32/155 model, which, in Med mode, achieves 762 W for 17/19/28°C and 933 W for 12/16/26°C (762 × 1.225).

- **METHOD 2**
  CONSIDERING UNIT CAPACITY

For the specified operating parameters, determine the average temperature difference ΔT = 12°C (calculated from the graph below).

The graph allows for an easy reading of the average temperature difference ΔT for selected chilled water supply (t_s) and return (t_r) parameters, depending on the room temperature Θ_i .



Example Calculation of ΔT for a supply temperature t_s=12°C, return temperature t_r= 16°C, and room temperature Θ_i = 26°C:

1. Draw a horizontal line from ts = 12°C to its intersection with the diagonal return temperature line (tr = 16°C).
2. Draw a vertical line from this intersection to the diagonal room temperature line (Θ_i = 26°C).
3. Draw another horizontal line to read the average temperature difference ΔT = 12 K.

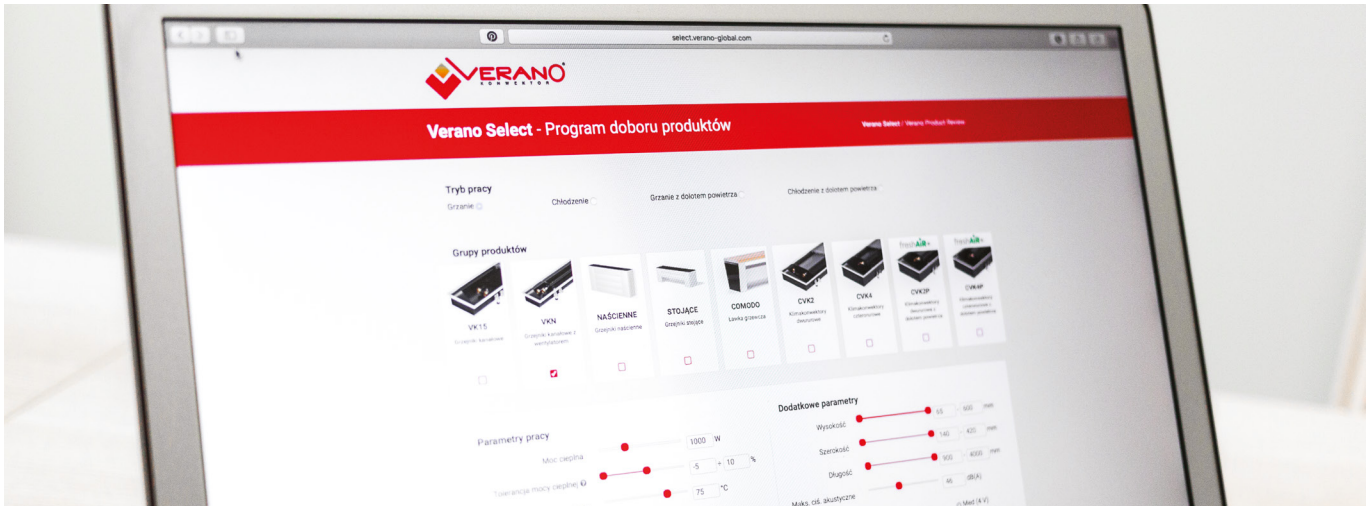
Using the performance charts in the catalog, select a fan coil unit with suitable dimensions for the room. When selecting the unit, consider the fan operating mode and its corresponding sound pressure level.

1. Draw a vertical line from the calculated cooling demand (845 W) to its intersection with the 12 K temperature difference curve.
2. Read the control voltage (U) and note the sound pressure level (Lp).

The selected fan coil unit is CVK2-18/32/225, which meets the design parameters at a control voltage of U = 2.8 V, ensuring a sound pressure level below 37 dB(A).

CVK UNIT SELECTION

- METHOD 3
  Based on **VERANO SELECT** program



VERANO SELECT programme allows for precise CVK unit selection for any installation temperatures. In this way many of values can be precisely define as a heating or cooling outputs, sound pressure level, pressure drop, water flow and many others. The results of the selection can be print as a table or XLS file.

To use VERANO SELECT programme visit our webside **www.select.verano-global.com** or use the QR code.

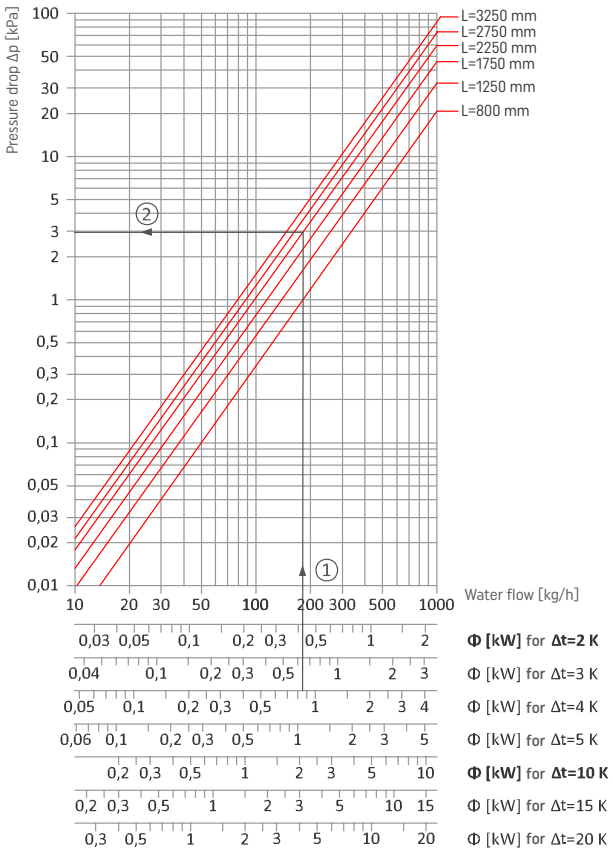
PRESSURE LOSS

Based on the fan coil unit selection process presented on page 52, the CVK2-18/32/225 unit was chosen. At a fan supply voltage of 2.8 V, it achieves a cooling capacity of 845 W. The chilled water cooling temperature difference is Δt = 4 K.

Pressure Loss Calculation:

1. Using the axis for Δt = 4 K, draw a vertical line from the cooling capacity of 0.845 kW to its intersection with the diagonal line representing the fan coil unit length Lk = 2250 mm.

2. Draw a horizontal line from this intersection to determine the pressure loss Δp = 2.9 kPa.



CVK UNITS CONTROL OPTIONS

Heating and cooling CVK units are designed to be installed in a floor void. One can distinguish two basic models of this product that are different through the way they are build and function:

2-PIPES CVK2 UNITS

The heat exchanger has only a single pipe circuit that can be used for heating or cooling. Only one set of valves and thermal actuator is required.

4-PIPES CVK4 UNITS

Two independent copper pipe circuits - one for heating and one for cooling and 2 sets of valves and thermal actuators are required (one for heating and one for cooling installation connection).

As CVK unit is a part of the heating/cooling system in the building they proper operation rely on:

- central heating installation being fitted correctly
- chilling/cooling installation being fitted correctly
- the valves and controls have been fitted, connected and configured properly.

The complete set of controls includes:

- room air controller that should be connected to the thermal actuators and fans,
- 24 V DC rail power supply (transformer)

Thanks to the built-in temperature sensor Room Temperature Controller measure the ambient temperature to keep it on the constant, required level:

- by adjusting the thermostatic valve opening/closing angle
- by adjusting the fan speed.

Due to the ambient temperature sensor the Room Temperature Controller should not be covered by any obstacles such as furniture or curtains.

Each heating/ cooling zone should be controlled by the single Room Temperature Controller.

For BMS systems Room Controller and Temperature sensor is usually split into 2 separate devices.

Due to the use of electric safe fans and low-voltage actuators, fan assisted units must be supplied with 24 V DC power converter.

The 24 V DC power supply should be protected by an appropriate overcurrent circuit breaker and an installation switch off that allows the power cut off while conducting service work on VERANO products.

It is forbidden to connect the unit directly to the 230 V AC power grid.

The recommended type of wiring in the controlling system is LIY or LIYCY.

NOTE!

Electric wiring should be done only by the electrical skilled worker who can confirm his membership in an approved self-certification scheme. Power can only be switched back on when the correctness of the whole wiring was checked and approved.

CVK UNITS OPERATIONS IN VARIOUS CONTROL SYSTEMS

CVK Climaconvectors are suitable for any building and they are easy to select thanks to a variety of available options controlling the unit.

CONTROLLING BY STANDARD ROOM AIR CONTROLLER

Each heating zone has a separate controller, which is responsible for readout of the temperature in the room and controlling the work of connected heating/cooling units. The controllers are not connected to each other, while each of them must be programmed separately.

Example: VER-24, VER-24S, RDG260T

CONTROLLIN BY ROOM AIR CONTROLLER CONNECTED TO INTERNET

The optional feature, that, when built into the standard wall mounted controller, allows you to manage your heating/cooling system through the smartrhone application or a secure website. Through the app you can manage the multiple devices or even create the entire home automation system.

Example: VER-24 Wi-Fi, VER-44 Wi-Fi, VERANO-2 Wi-Fi

RAIL POWER SUPPLY SELECTION

1. Using the tables for CVK units into this catalogue define the maximum fan power demand and maximum current. Choose the maximum value for units (value for boost mode).
2. Using the data sheet for thermal actuator define the maximum power demand and maximum current. For 0-10 V actuator maximum power is 7,7W and maximum current is 0,32A.
3. Using the data sheet for the controller define the maximum power demand and maximum current. For VER-24(S) maximum power is 1,3W and maximum current is 0,06A.
4. Sum up all power values. Then sum up all current values.
5. Choose the proper rail power supply by choosing the one that has slightly higher power and current values than your power and current values.

Selecting rail power supply with power demand value lower than heater power demand might cause turning off the fan on higher fan speed, and eventually fan failure.

EXAMPLE OF RAIL POWER SUPPLY SELECTION:

There are 3 heating and cooling units in the room:

- 1x CVK2-14/35/155
- 2x CVK2-14/35/225.

There are 3 thermal actuators (each one for one CVK unit). And one Room air controller VER-24.

Using the power and current data for CVK units and controls following values has been defined:

TYPE	MAX POWER	MAX CURRENT
1 x CVK2-14/35/155 heating and cooling unit	1 x 40,8	1 x 1,7
2 x CVK2-14/35/225 heating and cooling unit	2 x 67,2	2 x 2,8
3x 0-10 thermal actuator	3 x 7,7 W	3 x 0,32 A
1x VER-24 Room air controller	1 x 1,3 W	1 x 0,06 A
TOTAL:	**199,6 W**	**8,32 A**

Z240-24VDC RAIL POWER SUPPLY HAS BEEN SELECTED (240W / 10A)

CVK UNITS CONTROLS

The controlling function for Climaconvectors is handled through wall-mounted control panel that service the actuators and fans. It has the room thermostat built in that is responsible for measuring room ambient temperature and by regulating the opening angle of the actuating valves and fan revs it will keep the constant room temperature value.

It also offers the optional local temperature control that is managed over the Internet. Such a function is offered by the following controllers: VER-24 WiFi that is dedicated to CVK 2-pipe units and VER-44 WiFi the one to 4-pipe units.

VER-24 S / VER-24 WIFI

- for 2-pipes installation
- room air temperature controlling
- built-in temperature sensor
- inputs for 0-10V DC thermal actuator and for ON/OFF NC/NO thermal actuator
- 24 V DC supplied
- wireless controlling via Wifi (for VER-24 Wifi only)

VER-44 WIFI

- for 2-pipes and 4-pipes installations
- room air temperature controlling
- built-in temperature sensor
- inputs for 0-10V DC thermal actuator and for ON/OFF NC/NO thermal actuator
- 24 V DC supplied
- colour touch display

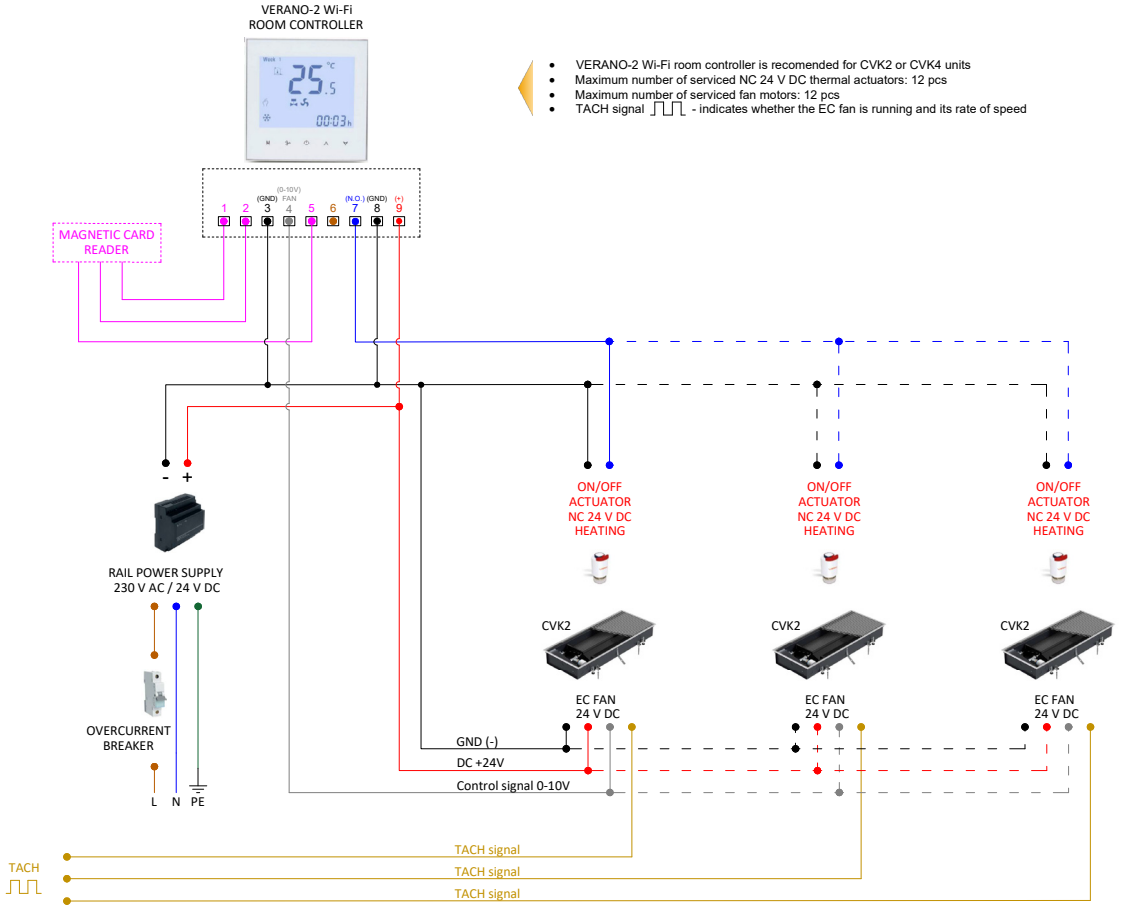
RDG260T/RDG260KN

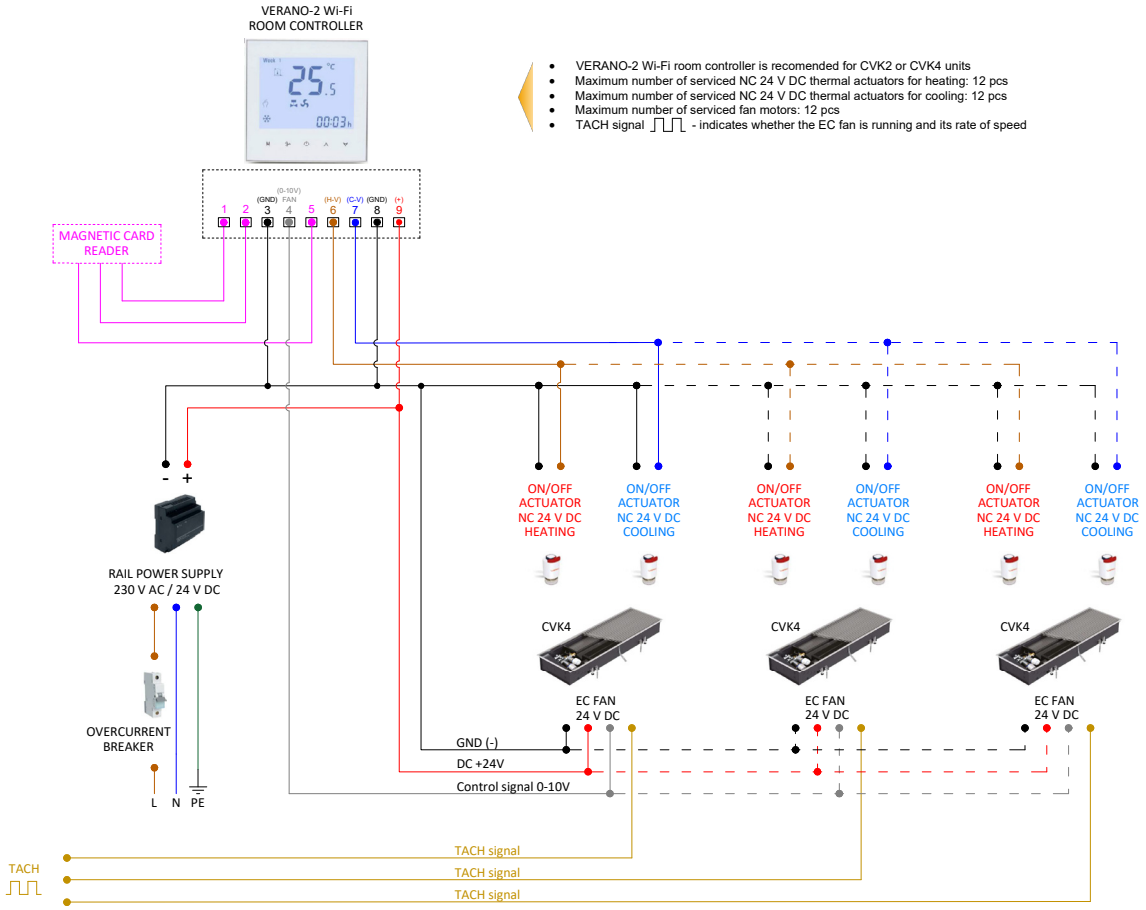
- for 2-pipes and 4-pipes installations
- room air temperature controlling
- built-in temperature sensor
- inputs for 0-10V DC thermal actuator and for ON/OFF NC/NO thermal actuator
- 24 V DC supplied

VERANO 2

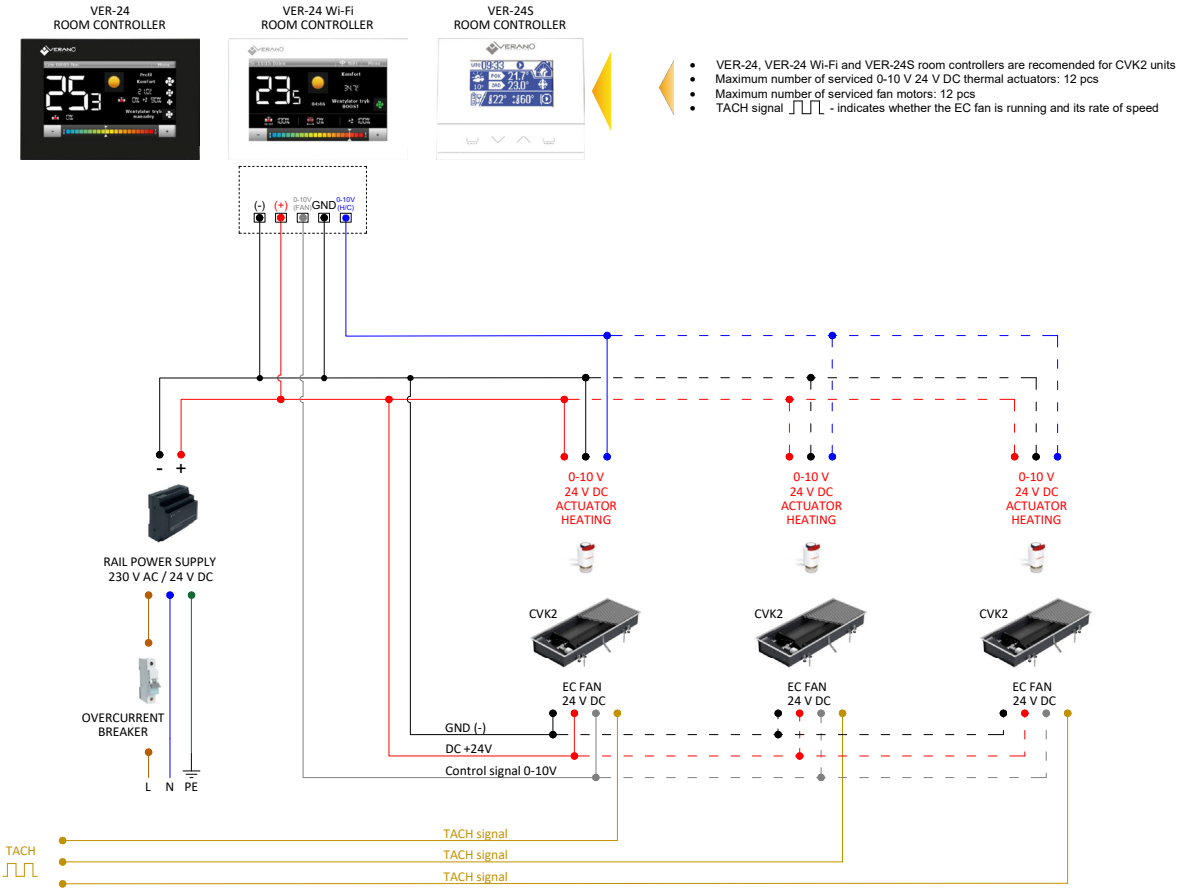
- room temperature control
- touch buttons
- available in white
- flush mounting
- modbus protocol support
- built-in Wi-Fi module allows control using a mobile device
- thanks to the online application, control from anywhere on earth is possible

CVK2 AND CVK4 WIRING DIAGRAMS - VERANO-2 WI-FI ROOM CONTROLLER



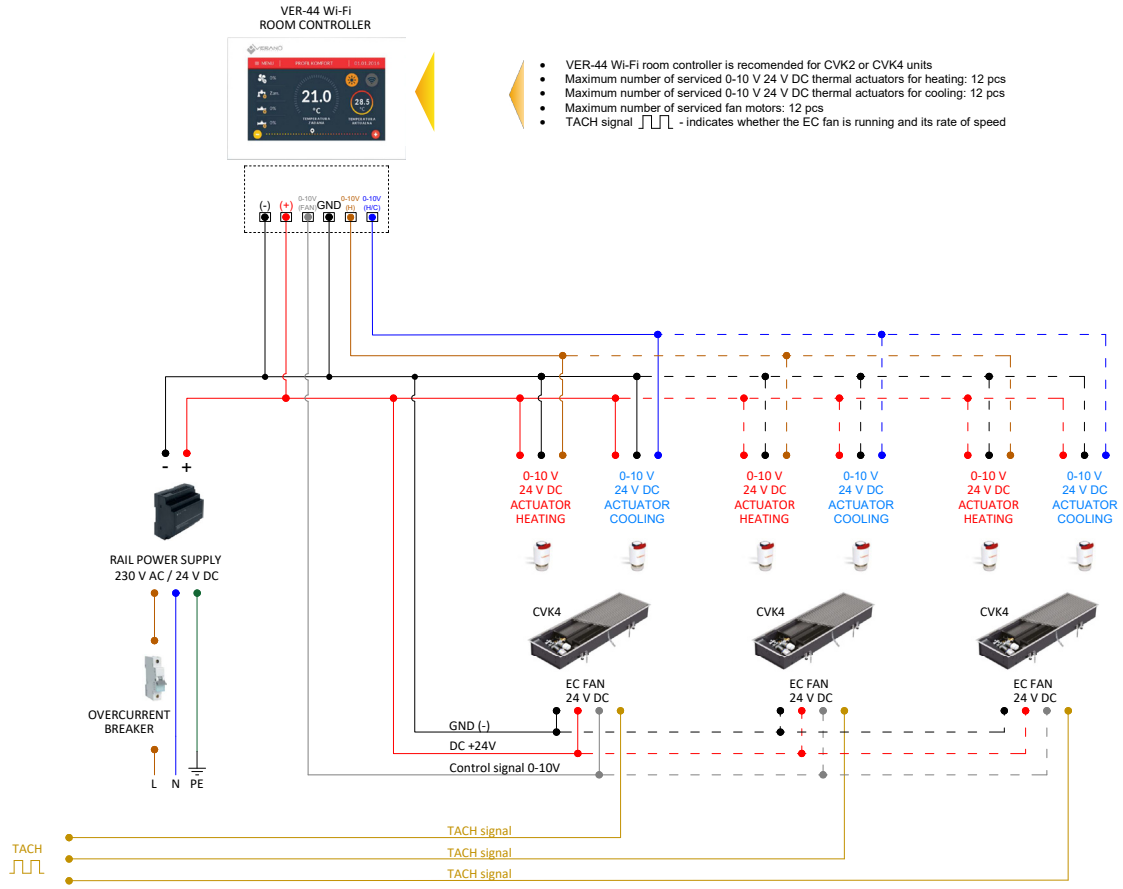


CVK2 WIRING DIAGRAM - VER-24 / VER-24S / VER-24 WI-FI ROOM CONTROLLER



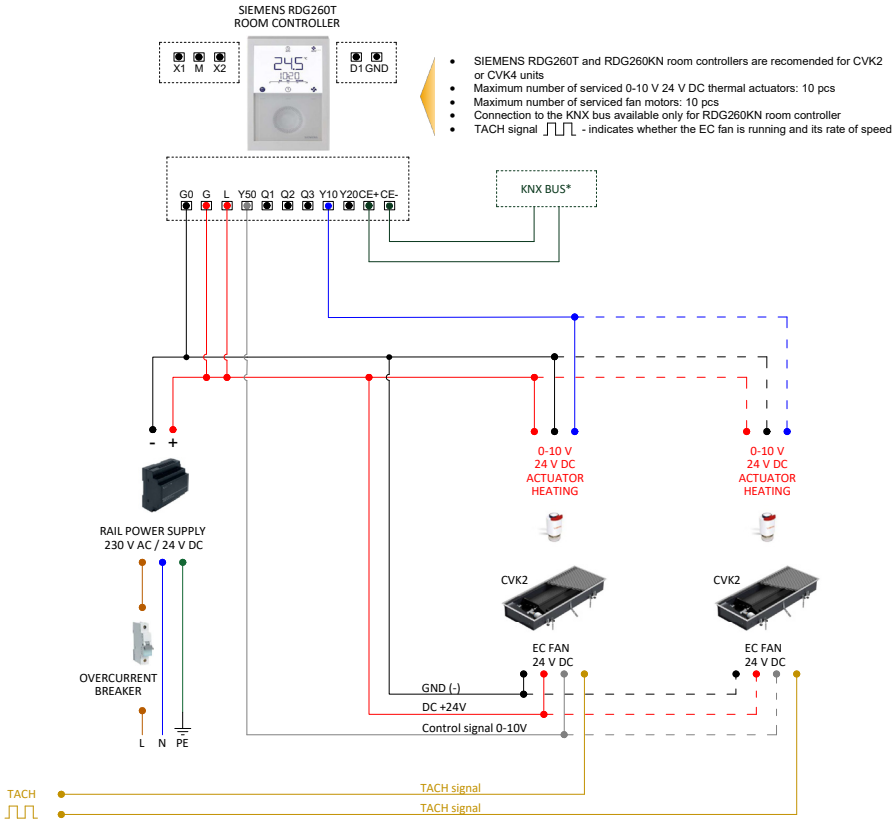
- VER-24, VER-24 Wi-Fi and VER-24S room controllers are recomended for CVK2 units
- Maximum number of serviced 0-10 V 24 V DC thermal actuators: 12 pcs
- Maximum number of serviced fan motors: 12 pcs
- TACH signal - indicates whether the EC fan is running and its rate of speed

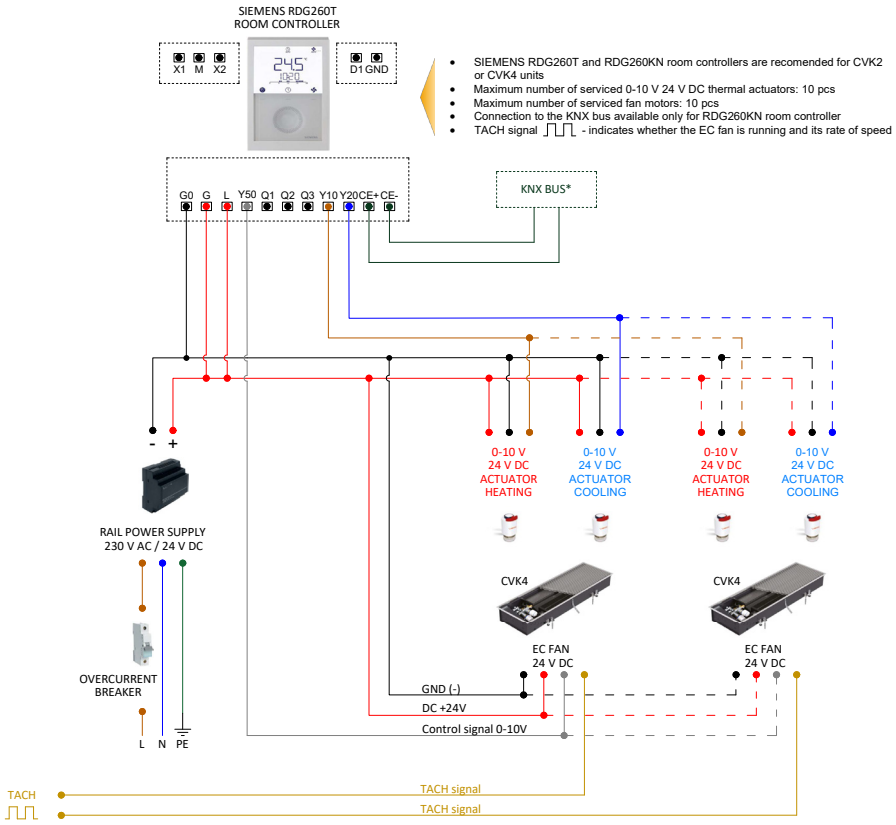
CVK4 WIRING DIAGRAM - VER-44 WI-FI ROOM CONTROLLER



- VER-44 Wi-Fi room controller is recomended for CVK2 or CVK4 units
- Maximum number of serviced 0-10 V 24 V DC thermal actuators for heating: 12 pcs
- Maximum number of serviced 0-10 V 24 V DC thermal actuators for cooling: 12 pcs
- Maximum number of serviced fan motors: 12 pcs
- TACH signal - indicates whether the EC fan is running and its rate of speed

CVK2 AND CVK4 WIRING DIAGRAMS - RDG260T / RDG260KN ROOM CONTROLLER





SETTING OF OPERATION PARAMETERS RDG260T

Press the two buttons on the regulator for at least 3 seconds. Then release both buttons and press the left button for another more than 3 seconds. Without releasing, turn the controller's knob half a turn anti-clockwise. The display will show the symbol of parameter, that confirms the entry into the service settings mode. The parameter is selected by turning the knob and confirming with the right button (OK). Use the knob to set the desired value, eg changing the setting P52=1, after changing P52=2. Use the right button to accept the selection. After finishing the settings, press the left button (ESC).

Configuration of RDG260T basic work parameters for CVK2 units

Configuration of switches inside the controller

DIP1	ON
DIP2	OFF
DIP3	OFF
DIP4	OFF
DIP5	OFF

Recommended settings of individual work parameters

Parameter	Setting	Description
P01	0	Heating only
	1	Cooling only
P05	-3...3 K	Temperature sensor calibration
P30	0,5...6 K	P-band/switching differential in heating mode
P31	0,5...6 K	P-band/switching differential in cooling mode
P38	0	No additional external sensor
P40	0	
P42	0	
P46	2	Output of 0-10 V DC thermal actuator
P52	1	Fan operation - Active
P60	89 min	Fan kick interval in Comfort mode
P61	359 min	Fan kick interval in Economy mode

Configuration of RDG260T basic work parameters for CVK4 units

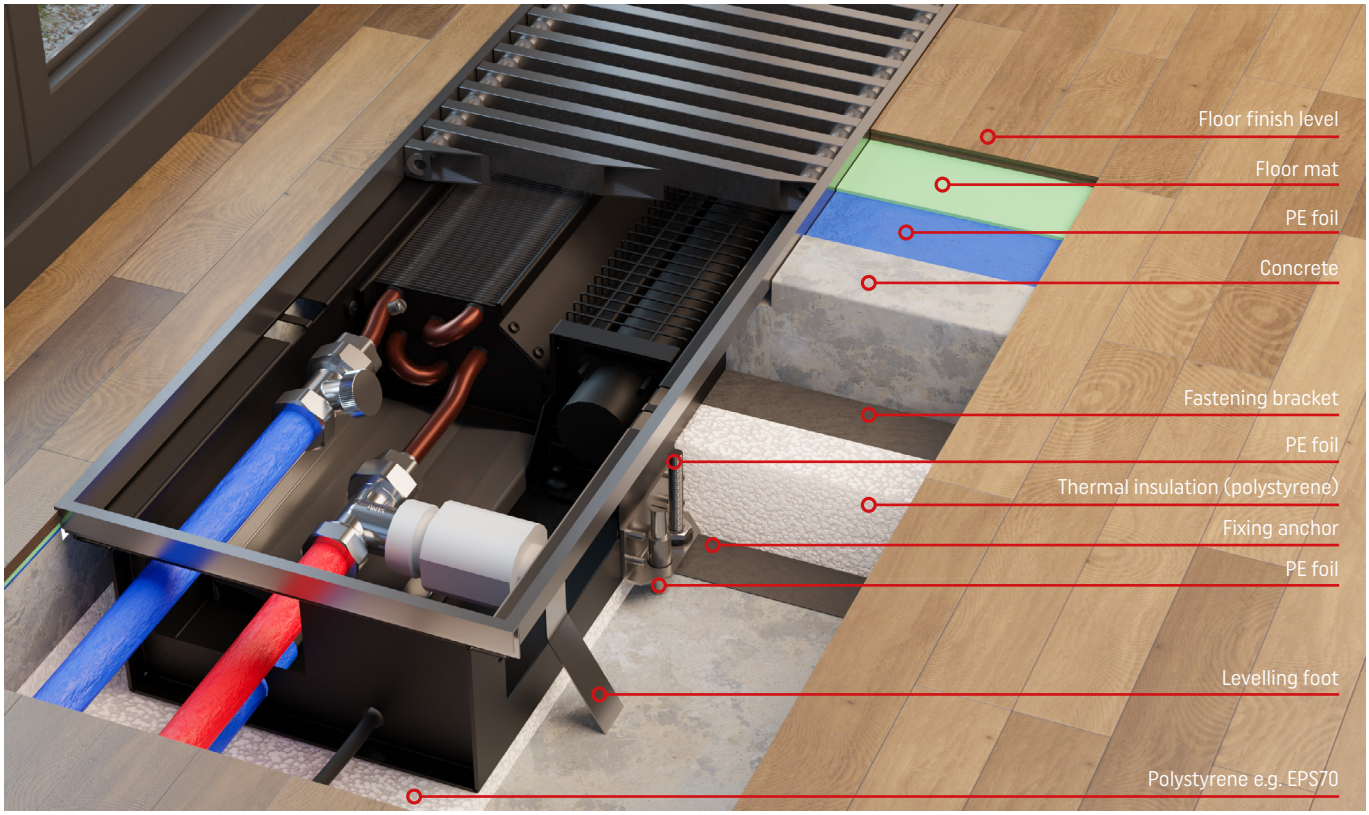
Configuration of switches inside the controller

DIP1	OFF
DIP2	OFF
DIP3	ON
DIP4	OFF
DIP5	OFF

Recommended settings of individual work parameters

Parameter	Setting	Description
P01	4	Heating and cooling
P05	-3...3 K	Temperature sensor calibration
P30	0,5...6 K	P-band/switching differential in heating mode
P31	0,5...6 K	P-band/switching differential in cooling mode
P33	0,5...6 K	Dead zone between heating and cooling
P38	0	No additional external sensor
P40	0	
P42	0	
P46	2	Output of 0-10 V DC thermal actuator (heating)
P47	2	Output of 0-10 V DC thermal actuator (cooling)
P52	1	Fan operation - Active
P60	89 min	Fan kick interval in Comfort mode
P61	359 min	Fan kick interval in Economy mode

INSTALLATION AND OPERATION OF CVK HEATING&COOLING UNITS



Before starting the installation process, a channel should be prepared in the floor, with dimensions approximately 50 mm larger than the fan coil unit on each side. The depth of the channel should be planned so that the grille surface is flush with the anticipated floor finish level.

The leveling of the fan coil unit tray is carried out using external leveling kits. Proper leveling of the tray affects the condensate drainage from the drip tray. The leveling kits should be supported by the structural layer of the floor. To secure the tray, it should be anchored to the concrete screed using anchoring kits.

For tray insulation, a material with a compressive resistance of at least 70 kPa is recommended, such as EPS70. Any gaps between the insulation and the fan coil unit tray should be filled with low-expansion foam (e.g., two-component mounting foam from SOUDAL). The fan coil unit tray should be installed only after removing the heating/cooling assembly.

The heat exchanger should be placed facing the partition, while the fan should be positioned towards the room. Heating&cooling units are not universal, meaning that the supply side must be specified when placing an order.

During finishing works, it is advisable to cover the tray with an installation cover to protect the unit from mechanical damage and contamination.

Before pouring the screed that will support the tray edge, ensure that all CONNECTIONS for the heating system/chilled water system and control system have been made.

Installation and electrical wiring can be routed to the tray from either the shorter or longer side. After the hydraulic and electrical connections are completed, the control system should be tested, and any debris should be removed from the inside of the tray.

The supporting screed should be at least 50 mm high.

During the installation of the fan coil unit, it is essential to use the included mounting spacers, which protect the tray and tray edge from deformation.

An additional expansion mat applied to the side of the tray helps reduce the contact surface between the concrete and the fan coil casing, providing extra acoustic insulation.

A Frame type L or F is available as an optional accessory to finish the edges of the fan coil unit and is installed during floor finishing work.

All installation work should be carried out by qualified construction, electrical, and installation professionals.

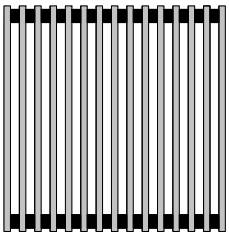
Heating&cooling units can optionally be equipped with an adjustable edge trim, allowing for height adjustments to compensate for discrepancies between the expected and final floor level without requiring floor chiseling.

Operation Guidelines:

- Do not cover the fan coil unit with carpets, furniture, or curtains.
- Grilles are durable against foot traffic but should not be subjected to excessive pressure, such as placing furniture or heavy objects on them.
- Due to the impact of dirt and debris on unit efficiency, it is recommended to periodically clean the tray interior.

GRILLLES

Roll-up grille double T-bar profile



TOP VIEW

SINGLE BAR
CROSS SECTION

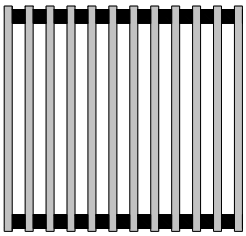
STANDARD:
- Spacers 17 mm.
- Distance between the bars - 13 mm.
- Spacers made of black PVC.

OPTION:
Spacers are available in other colours and size:
- grey 13 mm, 8 mm.

Maximum length of one grille section is 6 m.

GRILLE TYPE	COLOUR	ORDER CODE
Roll-up grille, double T-bar profile - natural aluminium	Natural aluminium	ZDW-1,8/B/L
Roll-up grille, double T-bar profile - anodized aluminium	Satin	ZADWS-1,8/B/L
	Stainless steel	ZADWST-1,8/B/L
	Gold	ZADWZ-1,8/B/L
	Black	ZADWC-1,8/B/L

Roll-up grille closed profile



TOP VIEW

SINGLE BAR
CROSS SECTION

STANDARD:
- Spacers 13 mm.
- Distance between the bars - 13 mm.
- Spacers made of black PVC.

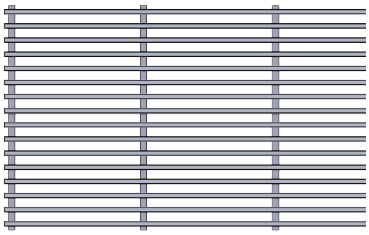
OPTION:
Spacers are available in other colours and size:
- grey 17 mm, 8 mm.

Maximum length of one grille section is 6 m.

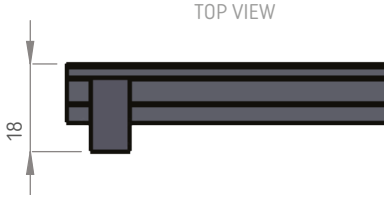
GRILLE TYPE	COLOUR	ORDER CODE
Roll-up grille, closed profile - natural aluminium	Natural aluminium	ZAL-1,8/B/L
Roll-up grille, closed profile - anodized aluminium	Satin	ZAALS-1,8/B/L
	Stainless steel	ZAALST-1,8/B/L

GRILLLES

Linear grille



TOP VIEW



CROSS SECTION

GRILLE ENTIRELY MADE OF ALUMINIUM.

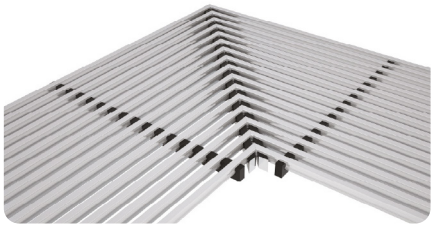
The grille is available in the following variants:

- natural aluminium (cross – bar joiners are coated in black RAL 9005),
- aluminium coated in any RAL colour (grille entirely coated in RAL),
- anodized aluminium (cross – bar joiners are coated in black RAL 9005).

It is possible to make a corner grille for corner section of the heaters at an angle of 90° and others.

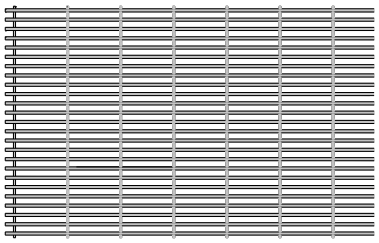
The corner grille can be made only if it is ordered with a heater at the same time.

Maximum length of one grille is 3 m.



GRILLE TYPE	COLOUR	ORDER CODE
Linear grille, snap profile - natural aluminium	Natural aluminium	PZW-1,8/B/L
Linear grille, snap profile - anodized aluminium	Satin	PZWAS-1,8/B/L
	Stainless steel	PZWAST-1,8/B/L
Linear grille, snap profile - any RAL colour	RAL colour	PZWR-1,8/B/L

Stainless steel



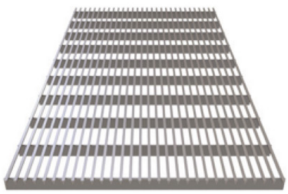
TOP VIEW

CROSS SECTION

THE GRILLE IS AVAILABLE ONLY AS A RIGID VERSION.

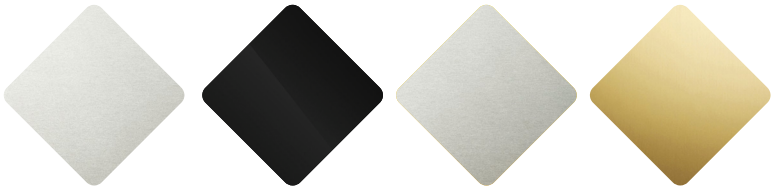
Maximum length of one section of the grille is 2 m.

Grille length longer than 2 m are made of several elements of equal lengths.



GRILLE TYPE	COLOUR	ORDER CODE
Stainless steel grille	Stainless steel	SN-1,8/B/L

Anodized aluminium colours



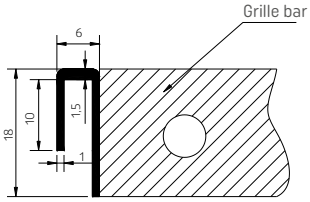
SATIN BLACK STAINLESS STEEL GOLD

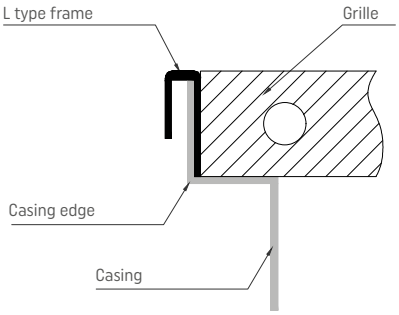
F and L frames are available in exact the same anodizing colours.

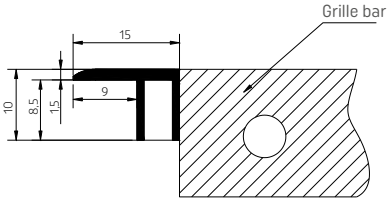
RAL Palette

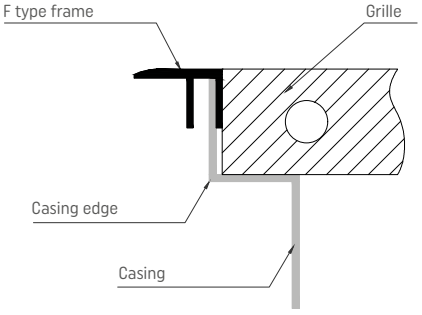
Frame and linear aluminium grilles are available in any RAL colour at additional surcharge.

L AND F-TYPE FRAME









ADDITIONAL EQUIPMENT FOR CVK UNITS

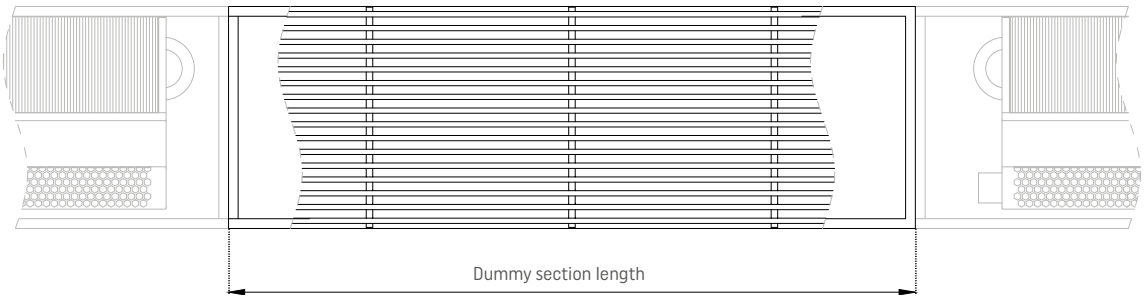
Raised floor kit ZPP

Kit contains:
- 1x support
- 2x expansion bolt with a screw
- 4x nut and washer

The ZPP kit allows the unit to be levelled by 300 mm (including trench casieng high). Other heights available on request.

DUMMY SECTION

Trench units can be produced as non-standard units with custom length adjusted to any recess or bay.
It can be done as:
- extended casing,
- separate dummy section.



CORNER TRENCH AND GRILLE OPTIONS - TRENCH AND GRILLE - CORNER OPTIONS

- Corner trench with linear grille and F-type frame.
- **Trench corner** with linear grille and F-type frame.

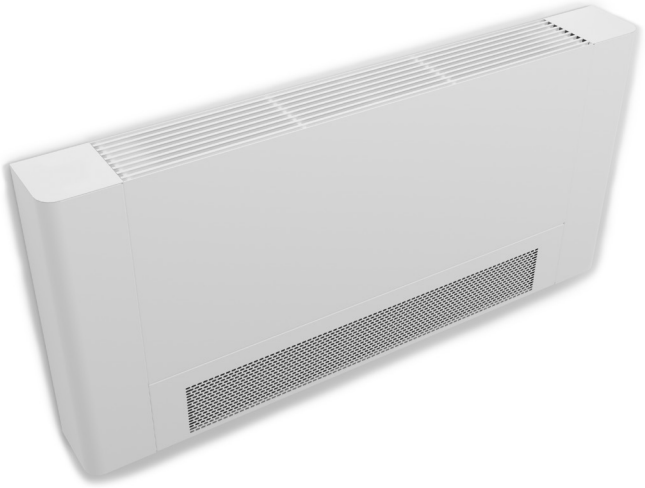
- Corner trench with cross-bar grille and F-type frame.
- **Trench corner** with cross-bar grille and F-type frame.

- Corner trench with cross-bar grille and F-type frame. Herringbone grille shape.
- **Trench corner** with cross-bar grille and F-type frame. Herringbone grille shape.

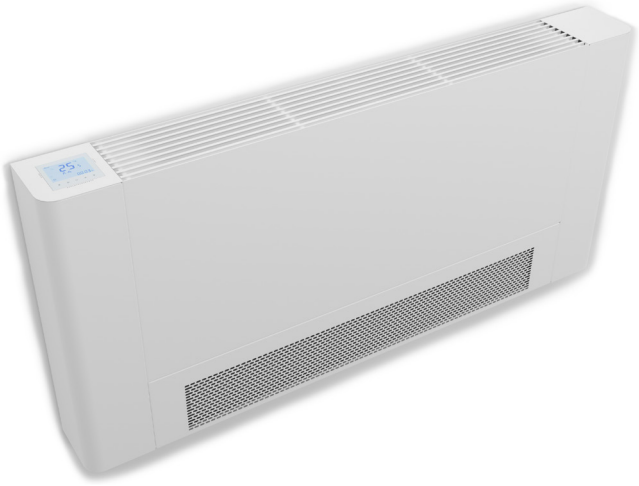
- Corner trench with linear grille and F-type frame. Herringbone grille shape.
- **Trench corner** with linear grille and F-type frame. Herringbone grille shape.

FAN ASSISTED WALL-MOUNTED HEATING AND COOLING UNIT NCVK2-60/14,7/L

BASIC VERSION



PLUG&PLAY VERSION



2-pipe fan assisted wall-mounted heating and cooling unit, one device with two features. Use of modern controls, ensures adequate thermal comfort in summer and winter. Modern design and a selection of casings, grilles and RAL colours make it fit perfectly into the interior. Thanks to the use of a quiet and efficient fan with a 24V DC EC motor, it allows you to reach the required temperature faster than natural convection. It is ideal for low-temperature systems equipped with heat pumps or condensing boilers.

- Standard heating and cooling output [W] compliant to EN16430-1:2015-02.
- Control voltages for the respective modes of operation: Min – 2 V, Med – 4 V, Max – 6 V, Boost – 10 V.
- Min, Med, Max fan speeds are for continuous operation, the Boost mode is for speed heating or cooling.
- Sound power level according to ISO-3745 standard, sound pressure level measured at distance of 2 m to the heater, in a 100 m3 volume room. Reverb time - 0,5 s, room damping - 8 dB(A).
- Maximum permissible operating pressure: 1,0 MPa.
- Test pressure: 1,3 MPa.
- Maximum hydraulic pressure: 1,69 Mpa.
- Maximum operating temperature: 110°C.

DIMENSIONS	[mm]
Height (H)	600
Width (B)	147
Length (L)	800-1570

CONNECTION	TYPE
Connection side	Right (P) standard
	Left (L) option
Connection threads	¾" female thread (basic version)
	½" female thread (plug&play version)

ORDER CODE:

NCVK2-60/14,7/L (P)

- Trench height [cm]
- Trench width [cm]
- Trench length [cm]
- Connection side L-Left / P-Right

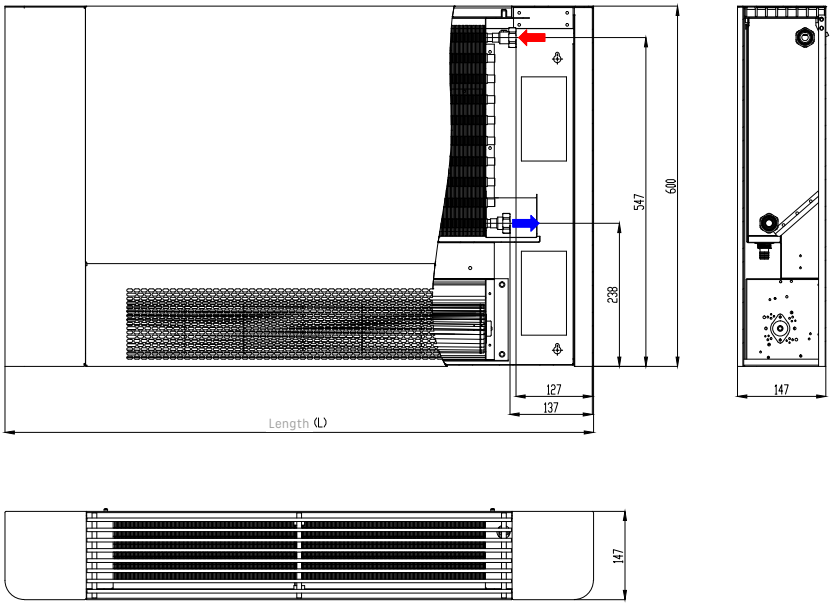
BASIC VERSION

STANDARD EQUIPMENT:

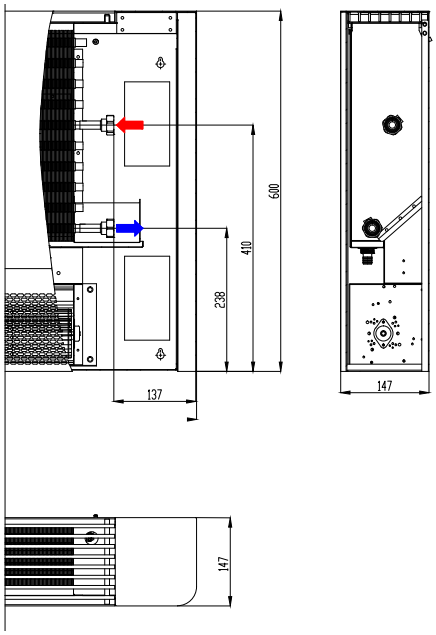
- Casing made of galvanized steel, powder coated in white RAL 9003
- Copper-aluminium heat exchanger with air vent
- Front grille: oval
- Top grille: linear aluminium, powder coated in white RAL 9003
- Modern fan with silent and efficient 24V DC EC motor
- Fan cover with airflow baffle
- Water connection with ¾" female thread
- Assembly kit
- Condensate drain pan.

ADDITIONAL EQUIPMENT:

- Casing painted in any RAL colour
- Custom front grille type: honeycomb
- Custom top grille type: linear or roll-up, natural or anodized aluminium
- Condensate pump
- Valves and control system (actuator, controller, power supply)
- Anti dust filter (causes an output decrease by approx 10%).



Note: Applies to lengths 800 and 980mm.



Note: Applies to lengths 1270 and 1570mm.

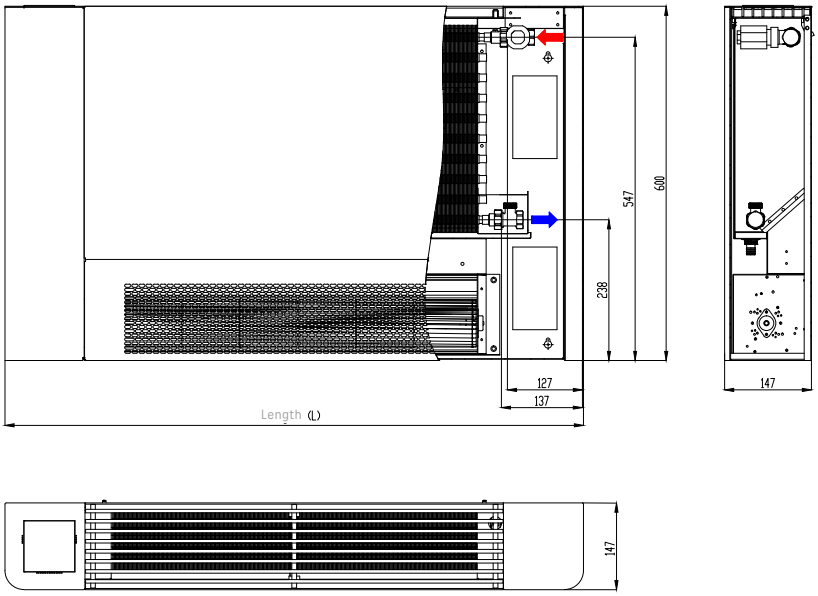
PLUG&PLAY VERSION

STANDARD EQUIPMENT:

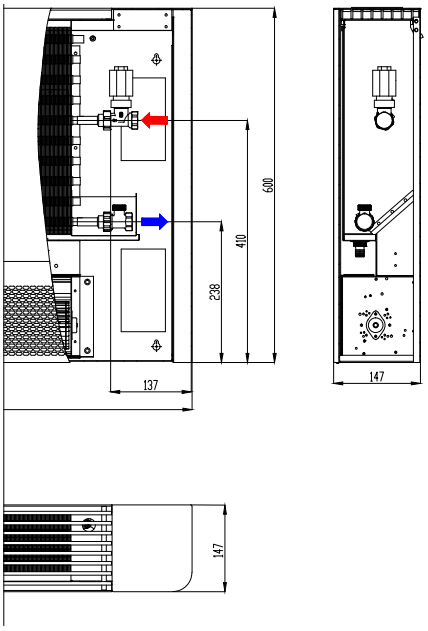
- Casing made of galvanized steel, powder coated in white RAL 9003
- Copper-aluminium heat exchanger with air vent
- Front grille: oval
- Top grille: linear aluminium, powder coated in white RAL 9003
- Modern fan with silent and efficient 24V DC EC motor
- Fan cover with airflow baffle
- Water connection with ½" female thread
- Assembly kit
- Condensate drain pan
- Valves and control system (actuator, built-in controller VERANO-2 Wi-Fi*, power module) - factory wired
- Power cable with F-type plug.

ADDITIONAL EQUIPMENT:

- Casing painted in any RAL colour
- Custom front grille type: honeycomb
- Custom top grille type: linear or roll-up, natural or anodized aluminium
- Condensate pump
- Anti dust filter (causes an output decrease by approx 10%).



Note: Applies to lengths 800 and 980mm.



Note: Applies to lengths 1270 and 1570mm.

* Note: The built-in controller VERANO-2 Wi-Fi is only available in the white colour. It is always located on the side of the electrical module (opposite to the water connection side). It is intended to operate only one device.

TECHNICAL DATA

Trench length	Operating mode	HEATING									COOLING							
		75/65/20 °C			55/45/20 °C			35/30/20 °C			17/19/28 °C				7/12/27 °C			
		Heat output	Pressure loss	Water flow rate	Heat output	Pressure loss	Water flow rate	Heat output	Pressure loss	Water flow rate	Sensible cooling output	Total cooling output	Pressure loss	Water flow rate	Sensible cooling output	Total cooling output	Pressure loss	Water flow rate
[mm]	[-]	**[W]**	[kPa]	[l/h]	**[W]**	[kPa]	[l/h]	**[W]**	[kPa]	[l/h]	**[W]**	**[W]**	**[kPa]**	**[l/h]**	**[W]**	**[W]**	**[kPa]**	**[l/h]**
800	Min	**1703**	1,77	150	**975**	0,67	85	**375**	0,42	65	**240**	**240**	0,95	103	**354**	**433**	0,38	61
	Med	**2386**	3,21	210	**1367**	1,21	119	**526**	0,76	91	**398**	**398**	2,32	171	**587**	**703**	0,92	101
	Max	**3004**	4,82	264	**1720**	1,81	150	**662**	1,14	115	**514**	**514**	3,64	221	**758**	**898**	1,44	130
	Boost	**3826**	7,37	337	**2191**	2,77	191	**843**	1,74	146	**722**	**722**	6,62	310	**1065**	**1269**	2,61	182
980	Min	**1974**	2,89	174	**1151**	1,12	100	**456**	0,74	79	**294**	**294**	1,71	126	**489**	**614**	0,83	84
	Med	**3088**	6,34	272	**1800**	2,46	157	**714**	1,63	124	**546**	**546**	5,08	235	**907**	**1138**	2,47	155
	Max	**3981**	9,91	350	**2320**	3,84	202	**920**	2,55	159	**694**	**694**	7,75	298	**1153**	**1420**	3,76	197
	Boost	**5372**	16,80	473	**3131**	6,50	273	**1241**	4,31	215	**1017**	**1017**	15,18	437	**1690**	**2064**	7,38	289
1270	Min	**3240**	1,26	285	**1849**	0,47	161	**707**	0,29	122	**455**	**455**	0,68	196	**647**	**776**	0,25	111
	Med	**4459**	2,21	392	**2545**	0,83	222	**973**	0,52	168	**753**	**753**	1,64	324	**1070**	**1229**	0,61	183
	Max	**5723**	3,43	504	**3266**	1,28	285	**1249**	0,80	216	**969**	**969**	2,55	416	**1377**	**1623**	0,94	236
	Boost	**7197**	5,13	633	**4107**	1,92	358	**1570**	1,19	272	**1333**	**1333**	4,46	573	**1895**	**2256**	1,65	325
1570	Min	**3737**	2,09	331	**2187**	0,81	191	**861**	0,53	149	**554**	**554**	1,21	238	**900**	**1101**	0,57	154
	Med	**5571**	4,16	490	**3234**	1,60	282	**1274**	1,05	220	**974**	**974**	3,27	419	**1582**	**1976**	1,53	271
	Max	**7212**	6,55	635	**4187**	2,52	365	**1649**	1,66	285	**1248**	**1248**	5,06	536	**2028**	**2487**	2,37	347
	Boost	**9470**	10,57	833	**5498**	4,07	479	**2165**	2,67	375	**1784**	**1784**	9,47	767	**2898**	**3540**	4,43	496

Trench length	Operating mode	Sound pressure Level	Sound power Level	Electric power	Current	Number of fan motors
[mm]	**[-]**	**[dB(A)]**	**dB(A)]**	**[W]**	**[A]**	**[-]**
800	Min	19	27	2,0	0,08	1
	Med	27	35	3,8	0,16	
	Max	35	43	7,6	0,32	
	Boost	50	58	21,7	0,90	
980	Min	21	29	2,0	0,08	1
	Med	29	37	4,5	0,19	
	Max	37	45	9,3	0,39	
	Boost	53	61	26,0	1,08	
1270	Min	25	33	2,1	0,09	1
	Med	32	40	7,0	0,29	
	Max	39	47	15,6	0,65	
	Boost	54	62	44,4	1,85	
1570	Min	24	32	4,0	0,17	2
	Med	31	39	8,2	0,34	
	Max	39	47	16,8	0,70	
	Boost	54	62	47,6	1,98	

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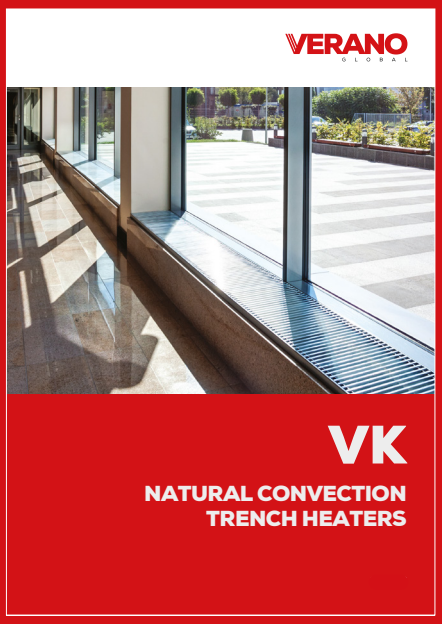

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