

MDL 2p/4p Fan Coil CVK TECHNICAL Catalogue

CVK





CVK

Climaconvector type CVK2, CVK4, CVKS



The most recent MDL Verano products - floor and wall, two pipes and four pipes cli-maconvectors have been developed as a technical concept on the foundation of widely conducted R&D works, partially financed by EU grant programs, where-as many analyses and tests focusing on optimization of geothermal parameters of heat-floating convection coil heat ex-changer.

Climaconvectors will provide appropriate temperature as well as optimal climate control both during sum-mer and wintertime. Their output range and variety of lengths available would suit every single room application.

Climaconvector's main feature is a very efficient heating/cooling coil exchanger, that is made of aluminum fins and cop-per pipe. Such a coil element due to its low water capacity, can achieve very low thermal inertia, that allows heating of any room relatively quick. In order to im-prove the heating emitter effectiveness climaconvectors from Verano Convector are equipped with the most modern and very economical ECM/DC fan motor. These units despite of their economic efficiency are also exceptionally quiet.

Thanks to such an efficient heating and cooling coil coupled with EC fan motor, climaconvector may be ideal for using in low temperature water installations e.g. being supplied by heat pumps.

Two-pipesClimaconvectorshavingdepth 3.5in are available in floor mounted (CVK2)or wall-mounted (CVKS) versions, although two pipes Climaconvectors (CVK2) and four pipes units (CVK4) having depth 5.5 in are available in floor--mounted versions

Types overview

Height H [in]	Width W [in]	Length L [in]	System
3.5	6.7	27.5	2-pipe
		43.3	
5.5	13.75	57	2-pipe
		74.8	
		27.5	
		43.3	
		59	
		74.8	
5.5	13.75	90.5	4-pipe
		104.3	
		37.4	
		51.2	
		66.9	
		82.6	
		98.4	
		112.2	

Assembly manual

Climaconvector is being assembled in a way to keep fan motor of room side and to keep coil heat exchanger on a window side.

In order to avoid causing any heat loss through the floor space, trench casing should be thermo insulated from outside of the trench casing. When assembling Climaconvector you should remember to provide proper acoustic insulation in a space created by a trench void and through all layers of a floor.

Connection holes are made in right side of trench in climaconvector as in standard. It is possible to manufacture nonstandard version having holes for connections in a left side of a trench casing.

In a trench casing there are four holes – two of them are put at the same height as mounting brackets of a heat exchanger, third hole is as a spare one (i.e. for any fitting in any connections or capillary etc.), fourth of them as a drainage you need to connect with sewerage system. Inside Climaconvector units there are leveling and mount brackets, that will also enable fitting trench casing into a floor.

Wall-assembled Climaconvector CVKS you should mount in a way to keep heat exchanger coil downside and a fan motor upside.

Climaconvector should be hanged inside specific wall niche by using wall plugs. The depth of a niche should have been similar to the size of Climaconvector. A width of a wall niche could have some mounting clearance, that should be filled in. Any grille should be adjusted to sit into the wall.

Connection slots are prepared from right hand side of a trench casing. It is possible to make them from left hand side (bespoke specification/on demand).

In a trench casing there are four holes – two of them are put at the same height as mounting brackets of a heat exchanger, third hole is as a spare one (i.e. for any fitting in any connections or capillary etc.), fourth of them as a drainage you need to connect with sewerage system. Inside Climaconvector units there are leveling and mount brackets, that will also enable fitting trench casing into a floor.

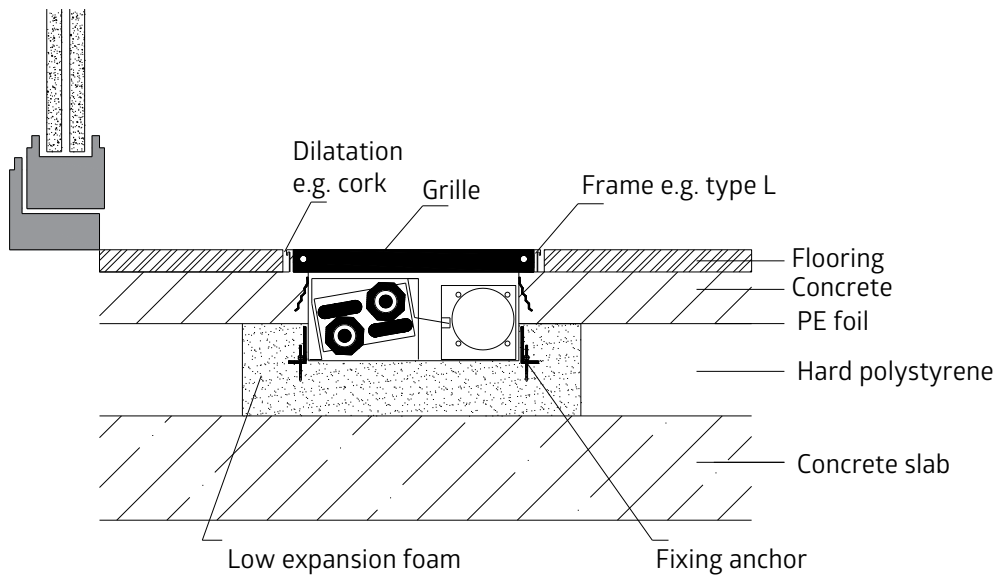
There are together with Climaconvector 4 mount brackets, that will enable fitting its casing on the wall niche.

During any assembly work you should carefully protect the inside of casing, in order to avoid any dirt and dust inside (affecting coil heat exchanger, fan motor)

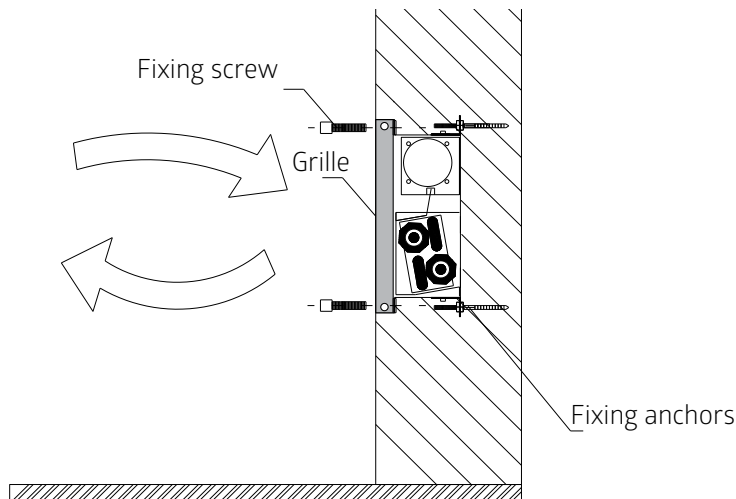
In order to avoid any longitudinal deflection (deflection of trench casing borders) during concrete coating you should use some elements that will expand a trench casing.

It is forbidden to lead any water connections along the coil inside the trench casing, as it may harm temperature float by limiting an air exchange inside a trench. Connections of coil have internal thread of 3/4". It could be connected by straight or angled thermostatic valves. It is not possible to turn around a coil heat exchanger for 180° in according to water installation connections.

Any detailed manuals in regards to assembly and installation are attached to every single purchased Climaconvector units and are coming with warrantee documents.



An example of assembly a trench climaconvector (side view)



An example of assembly an in-wall climaconvector (side view)

Room temperature controller VER-24



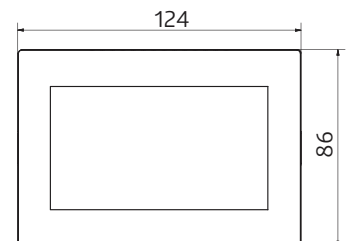
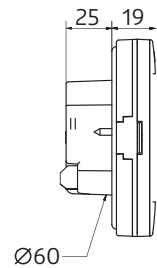
TOUCHSCREEN

2MM FRONT
PANEL GLASS

FLUSH
MOUNTING

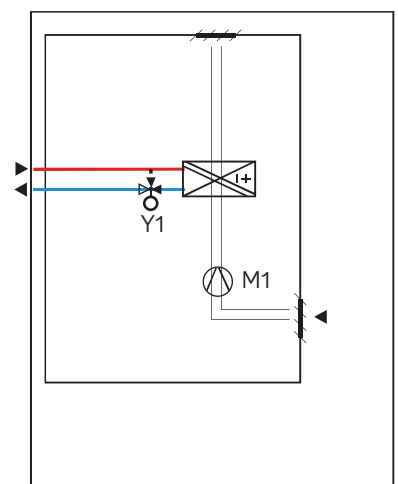
Room temperature controller VER-24

- ◆ For fan forced convection type
- ◆ For heating/cooling 2-pipes and 4-pipes units
- ◆ Output 0 ... 10V DC for fan switched electronically (ECM) 24V
- ◆ Control output 0 ... 10V or ON / OFF (24V valve)
- ◆ Heating or cooling mode
- ◆ Mode: comfortable, economical and protection
- ◆ Mode selection: Manual or weekly program
- ◆ Color touch display
- ◆ Built-in room sensor













VER-24 Room controller controls the fan and valves in order to keep the room temperature set point. Depending on the selected mode leads to increase the room temperature (heating mode) or to its reduction (cooling mode). The controller smoothly controls the fan speed (depending on the demand gradually increasing or decreasing the speed) and valve operation (depending on the demand gradually increasing or decreasing the degree of opening). In addition, the controller can regulate the work of the second valve – opening or closing it depending on demand.










VER-24 Room controller is designed for a flush mounting.
























Control devices for trench VK 15, wall-mounted and floor-mounted - wireless system

	Name	Description	Net price
NEW	Room temperature controller RF10B	Wireless digital temperature controller 4in1, white, flush-mounted, 120 V	
NEW	Room temperature controller RF10C	Wireless digital temperature controller 4in1, black, flush-mounted, 120 V	
NEW	Room temperature controller RF20B	Wireless digital temperature controller 4in1, white, wall-mounted, 120 V	
NEW	Room temperature controller RF20C	Wireless digital temperature controller 4in1, black, wall-mounted, 120 V	
NEW	Central strip L08	Wireless central strip to control 8 heating zones	
NEW	L04 module	Expansion Module for wireless central strip L08, 4 zones	
NEW	Thermostatic head GM10	Wireless thermostatic head M30x15, MINI version	
NEW	Network Repeater RE 10	ZigBee Repeater Network	
NEW	Network Coordinator C010	ZigBee Network Coordinator	
NEW	B30 Internet Gateway	Internet Gateway	

Thermostatic heads for VERANO Floor-mounted and LST Wall-mounted Convectors

	Name	Description	Net price
	Thermostatic head SH Diamant White Cat. No. 600100001	Schlösser thermostatic heads with connection thread M30x1.5 cooperate with all Schlösser valves as well as with other valves with inserts M30x1.5 and closing dimension 11,5 mm	
	Thermostatic head SH Diamant Plus White-Chrome Cat. No. 600100011		
	Thermostatic head SH Brillant White-Chrome Cat. No. 600200001		
	Thermostatic head SH Brillant White Cat. No. 600200002		
	Thermostatic head SH Brillant Chrome Cat. No. 600200003		
	Thermostatic head SH Brillant Satin Cat. No. 600200004		
	Thermostatic head SH Brillant Steel Cat. No. 600200005		
	Thermostatic head SH Brillant Gold Cat. No. 600200007		
NEW	Programmable TRV GP60	Fully programmable thermostatic head	

Control devices for VERANO Trench Heaters Fan Assisted type TURBO VKN5 and Climaconvectors type CVK2/CVKS and CVK4

Name	Description	Net price
Straight thermostatic valve type Siemens VDN 215	Valve diameter 15 DN	
Angular thermostatic valve type Siemens VEN 215	Valve diameter 15 DN	
Straight return valve type Siemens ADN15	Valve diameter 15 DN	
Angular return valve type Siemens AEN15	Valve diameter 15 DN	
Straight thermostatic valve type Schlösser 601200004	Valve diameter 15 DN	
Angular thermostatic valve type Schlösser 601200005	Valve diameter 15 DN	
Straight return valve type Schlösser 601300004	Valve diameter 15 DN	
Angular return valve type Schlösser 601300002	Valve diameter 15 DN	
Thermal servo-motor type Siemens STA 73 or STA 73/00	Supply voltage 24 V AC/DC, 2-position control. STA73 with 1 m connection cable, STA73/00 – need a separate cable ASY23L...	
Cable – type Siemens ASY23L...	Connection cable for STA 73/00 control mode 0...10 V, length of 2 m, 3 m and 5 m, 2-position control	
 Verano controller type VER-24B (White)	The control mode 0 ... 10V or ON / OFF (valve 24V). Ability to work in heating or cooling mode. Operating modes: comfort, economical and security.	
 Verano controller type VER-24C (Black)	The control mode 0 ... 10V or ON / OFF (valve 24V). Ability to work in heating or cooling mode. Operating modes: comfort, economical and security.	
Room temperature controller type Siemens RDG160T	Power supply 24 V AC control output 0...10 V DC, for fan with ECM (electronically commutated motor). Automatic or manual heating /cooling. Fan speed is activated	
Rail Power Supply Z030-24VDC	Input voltage 100-240V AC, Input frequency 50-60Hz, Output voltage 24V DC, Max output current 1,25A	
Rail Power Supply Z060-24VDC	Input voltage 100-240V AC, Input frequency 50-60Hz, Output voltage 24V DC, Max output current 2,5A	
Rail Power Supply Z100-24VDC	Input voltage 100-240V AC, Input frequency 50-60Hz, Output voltage 24V DC, Max output current 3,8A	
Rail Power Supply Z120-24VDC	Input voltage 100-240V AC, Input frequency 50-60Hz, Output voltage 24V DC, Max output current 5A	
Rail Power Supply Z240-24VDC	Input voltage 100-240V AC, Input frequency 50-60Hz, Output voltage 24V DC, Max output current 10A	
Rail Power Supply Z480-24VDC	Input voltage 100-240V AC, Input frequency 50-60Hz, Output voltage 24V DC, Max output current 20A	

CVK

Control devices

Control options for the trench heater fan assisted type CVK

Option 1:
 - Thermostatic valve
 - Return valve
 - Electro-Thermal servo-motor
 - Room temperature controller type RDG160T

Option 2:
 - Thermostatic valve
 - Return valve
 - Electro-Thermal servo-motor
 - Fan controller
 - Room temperature controller type RAB11 or RCC10 or RDG110

Option 3:
 - Thermostatic valve
 - Return valve
 - Electro-Thermal servo-motor
 - Fan controller
 - Room temperature controller type RDG100T
 - Remote control type IRA211

Straight thermostatic valve type Siemens VDN 215	Valve diameter 15 DN	
Angular thermostatic valve type Siemens VEN 215	Valve diameter 15 DN	
Straight return valve type Siemens ADN15	Valve diameter 15 DN	
Angular return valve type Siemens AEN15	Valve diameter 15 DN	
Straight thermostatic valve type Schlösser 601200004	Valve diameter 15 DN	
Angular thermostatic valve type Schlösser 601200005	Valve diameter 15 DN	
Straight return valve type Schlösser 601300004	Valve diameter 15 DN	
Angular return valve type Schlösser 601300002	Valve diameter 15 DN	
Thermal servo-motor type Siemens STP 63 or STP 73/00	Supply voltage 24 V AC/DC, 2-position control. STP63 with 1 m connection cable, STP73/00 – need a separate cable ASY6PL...	
Cabel – type Siemens ASY6PL...	Connection cable for STP73/00 function module 0...10 V, the length of 2 m, 5 m and 7 m	
Room temperature controller type Siemens RDG160T	Power supply 24 V AC control output 0...10 V DC, for fan with ECM (electronically commutated motor). Automatic or manual heating /cooling. Fan speed is activated automatically or manually.	
Remote control type Siemens IRA211	Remote control for infra-red receptor RDG100T	
FR2 fan control	Device controlling the fan speed	
Rail Power Supply DRC/DRP	Output voltage 24V DC, Input voltage 100-240V AC, DRC 24V (30W,60W,100W) DRP 24V (120W, 240 W)	

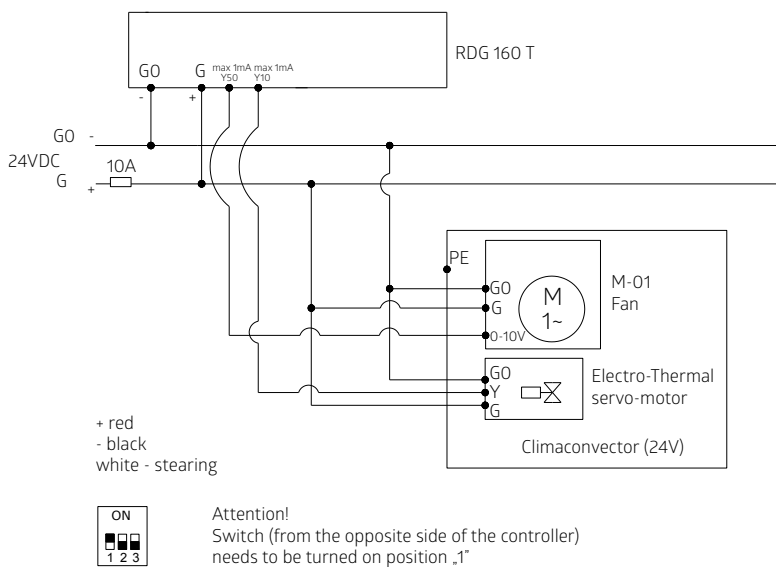
Electrical connection instruction

Attention!

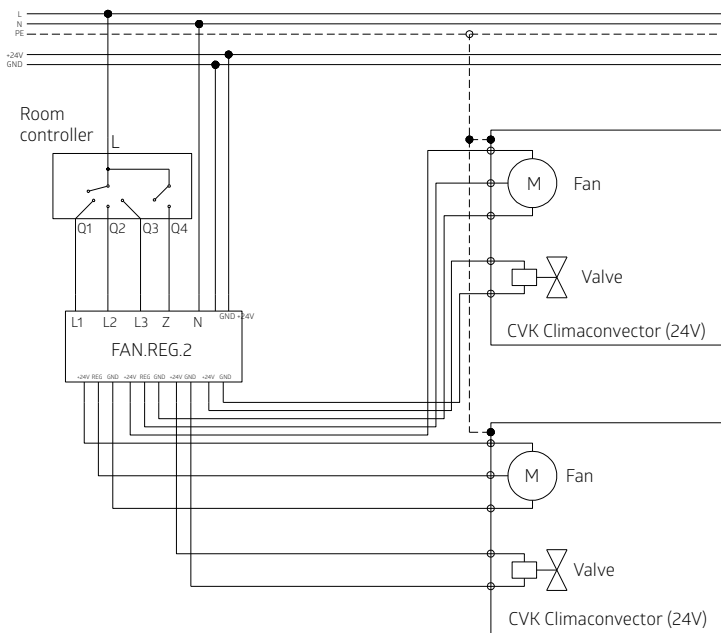
Electrical connections can be only done by appropriate licensed person and in compliance with electric standards.

Voltage can be turned on only after through checking of whole connection diagram.

It is prohibited to supply climaconvector directly from the main voltage of 120-230V.



Wiring diagram for the RDG160T controller



Wiring diagram for the other controllers



3.5 in height

CVK 2

2-pipe Climaconvectotr type CVK2/CVKS-09/17/L-23

The equipment of Verano climaconvector

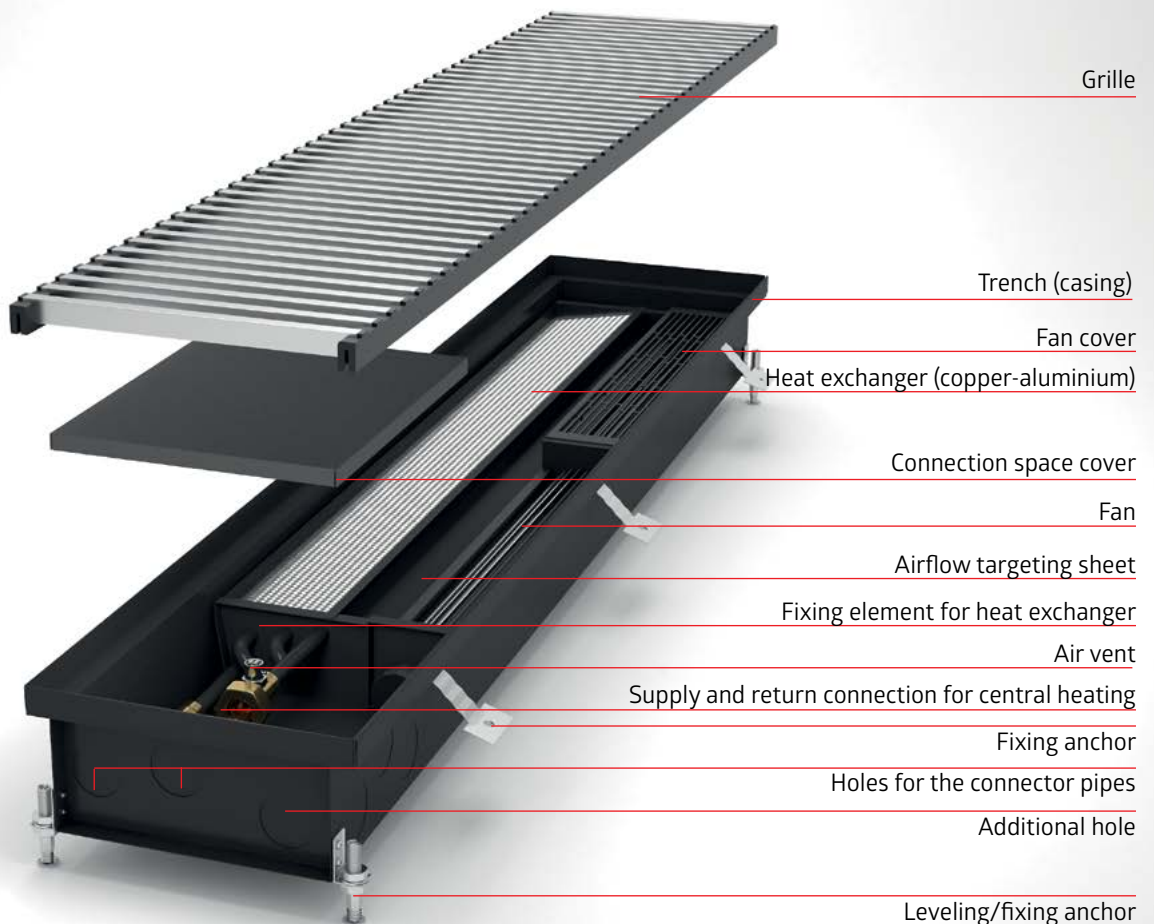
STANDARD equipment:

- trench (casing) made of hot-dip galvanized steel sheet with zinc magnesium coating, powder painted in black RAL 9005,
- copper and aluminium heat exchanger with air vent,
- 24 V DC fan with EC motor,
- fan cover,
- connection space cover,
- water connection 2x 3/4"
- fixing anchors, leveling/fixing anchors.

ADDITIONAL equipment:

- trench (casing) painted in any RAL colour,
- drain kit, must be connected to the sewage system,
- decorative frame around the heater casing, type L or F made of natural aluminum, powder coated in RAL, anodized or can be done as wood imitation,
- aesthetic grille made of aluminum (natural, anodized or powder painted in any RAL color) or stainless steel,
- Installation cover to protect against damage during transport and installation.

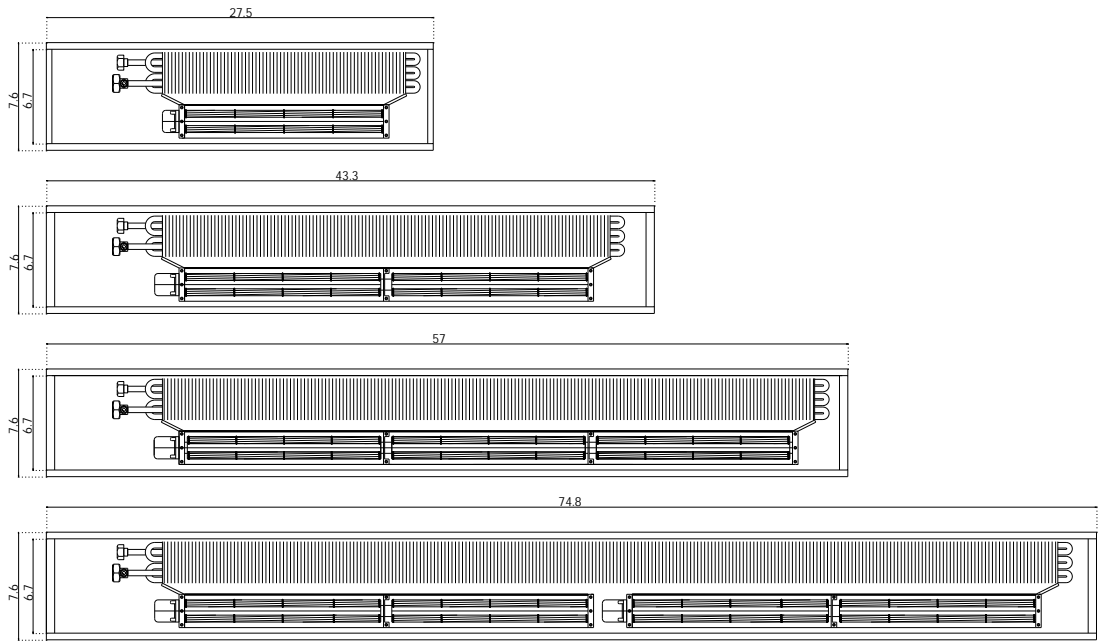
Construction of Verano climaconvector



CVK 2

3.5 inch height

Dimensions



Heating output [BTU/h]

Ts/Tr °F	L [inch]											
	27.5			43.3			57			74.8		
	1°	2°	3°	1°	2°	3°	1°	2°	3°	1°	2°	3°
180/160	2551	4351	5221	4692	8006	9609	6837	11,662	14,004	9387	16,013	19,228
160/140	CONSULT SOFTWARE AND MDL FOR OTHER CONDITIONS											
140/120	CONSULT SOFTWARE AND MDL FOR OTHER CONDITIONS											
120/100	CONSULT SOFTWARE AND MDL FOR OTHER CONDITIONS											
100/80	CONSULT SOFTWARE AND MDL FOR OTHER CONDITIONS											

The standard heat output does not include 15% for piping pick-up, according to DIN EN 442-2: 2013 for room air temperature $T_i = 65^\circ \text{F}$. 1° corresponds to the control voltage of 4.5V, 2° corresponds to the control volt 7V, 3° corresponds to the control voltage 10V.

3.5 in height

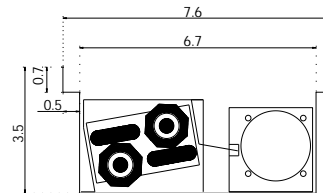
CVK 2

CVK2/CVKS-09/17/L-23

DIMENSIONS	UNIT [inch]
Trench height (H)	3.5
Trench width (W)	6.7
Grille width (Wg)	7.6
Trench length (L)	27.5 ÷ 74.8
Fin type	23

END SPACE LENGHT (Les)	UNIT [inch]
CVK2-09/17/070-23	2
CVK2-09/17/110-23	3
CVK2-09/17/145-23	2.5
CVK2-09/17/190-23	2.75

CONNECTIONS	TYPE
Connection threads	3/4" one-sided
Side connection to be choosen	Standard Right - P, optional Left - L
Fan from the room side	standard



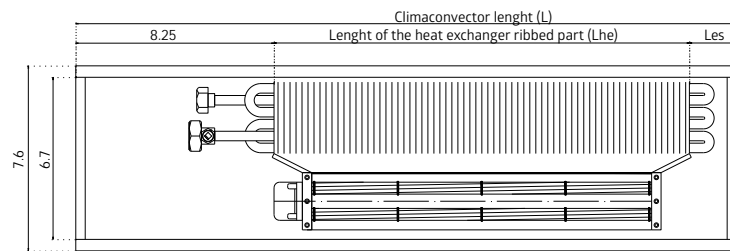
Cross-section of the climaconvector

Please remember!

Order Code for climaconvector CVK2 is:

CVK2-09/17/L-23

where:
L - length of the trench [mm]



Technical top-view of climaconvector type CVK2-09/17/L-23

Cooling output [BTU/h]

Ts/Tr/Ta °F	L [inch]											
	27.5			43.3			57			74.8		
	1°	2°	3°	1°	2°	3°	1°	2°	3°	1°	2°	3°
45/55/80	818	1248	1838	1405	2346	3117	2268	3260	3863	2776	4201	4682
CONSULT SOFTWARE AND MDL FOR OTHER CONDITIONS												

Cooling output [W] - 1° corresponds to the control voltage of 4.5V, 2° corresponds to the control volt 7V, 3° corresponds to the control voltage 10V.

CVK 2

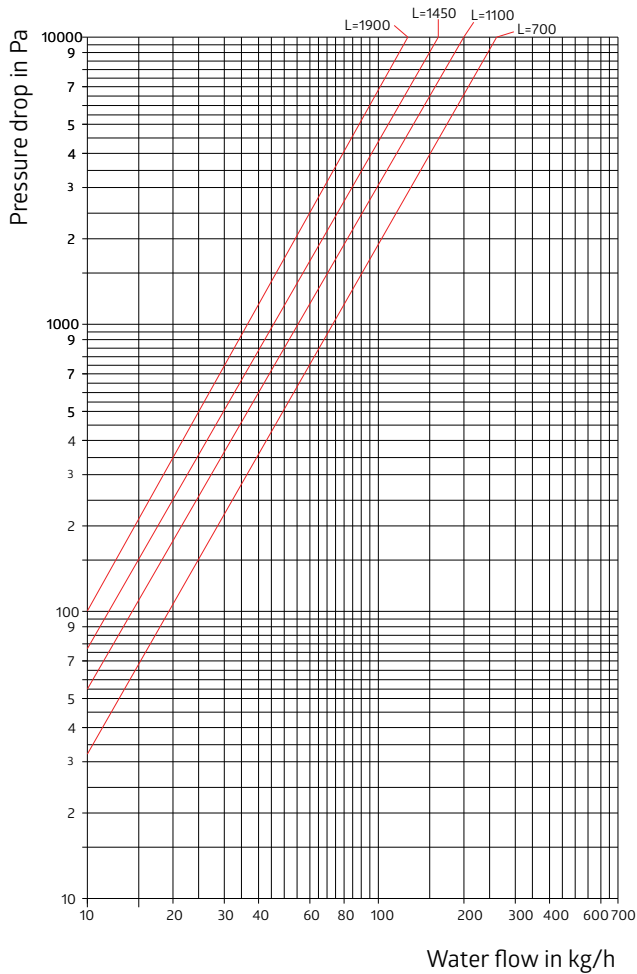
3.5 in height

Power and current

Climaconvector type	Climaconvector length [in]			
	27.5	43.3	57	74.8
Number of fan	1	2	3	4
Number of fan motors	1	1	1	2
CVK2-09/17/L-23				
Fan voltage [VDC]	24	24	24	24
Maximum current [A]	0,35	0,45	0,60	0,90
Maximum power consumption of the EC fan [W]	8,4	10,8	14,4	21,6

Pressure losses [Pa]

Water capacity [dm³]



Climaconvector type	Climaconvector length [mm]			
	700	1100	1450	1900
CVK2-09/17/L-23	0,10	0,23	0,37	0,55

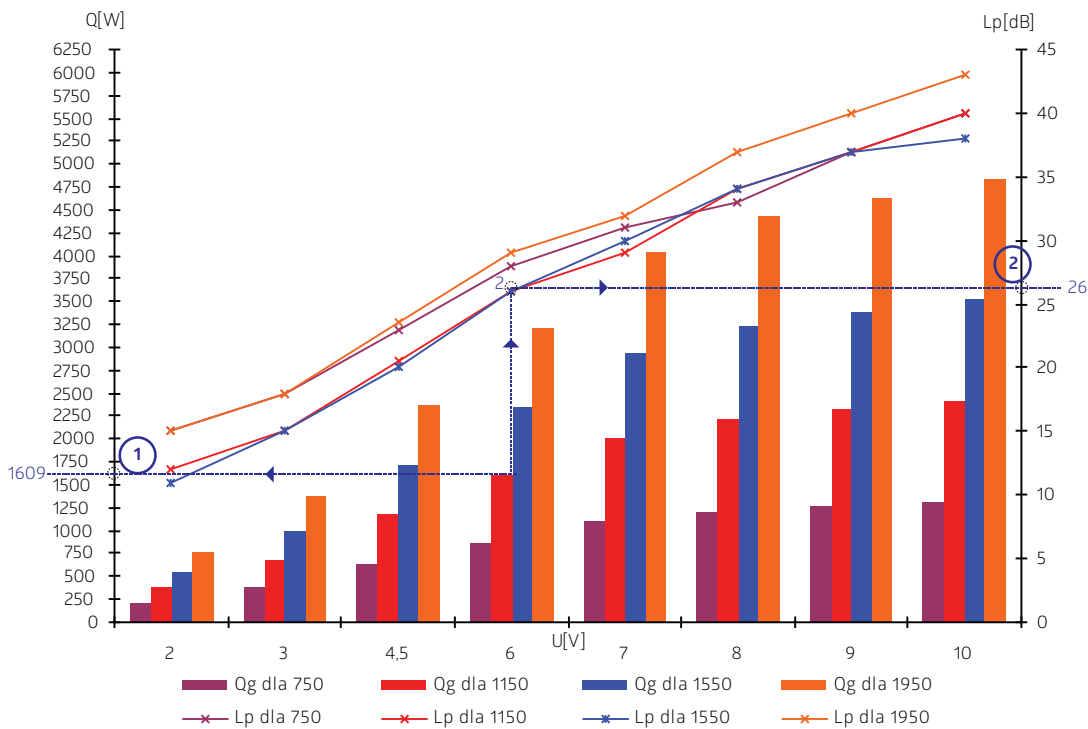
The maximum allowable working pressure of 1.0 MPa
 The test pressure of 1.3 MPa
 Maximum operating temperature: 230° F

3.5 in height

CVK 2

Sound power and pressure level [dB]

	Control voltage U [V]	Climaconvector length [in]			
		27.5	43.3	57	74.8
Sound pressure level Lp (A) [dB]	4,5 V	23	20,5	20	23,5
	7 V	31	29	30	32
	10 V	40	40	38	43
Sound power level Lw (A) [dB]	4,5 V	31	28,5	28	31,5
	7 V	39	37	38	40
	10 V	48	48	46	51



**Changes of the heater output Q [W] and the sound pressure level Lp [dB]
as a function of control voltage U [V]
for the climaconvector type CVK2-09/17/L-23 for Ts/Tr/Ti=75/65/20**

Sample of the calculation for the heater output Q [W] and the sound pressure level Lp [dB] for the climaconvector type CVK2-09/17/115-23 for the voltage U=6V.

Step 1 (point 1 on the chart) For the control voltage of 6V and climaconvector length L = 1150 mm (red in the diagram) on the left axis of the graph reads power Q = 1609W

Step 2 (point 2 in the graph): On the right axis of the graph reads the sound pressure level L = 26 dB

CVK 2



5.5 in height

CVK 2

2-pipe Climaconvector type CVK4-14/35/L-38

The equipment of Verano climaconvector

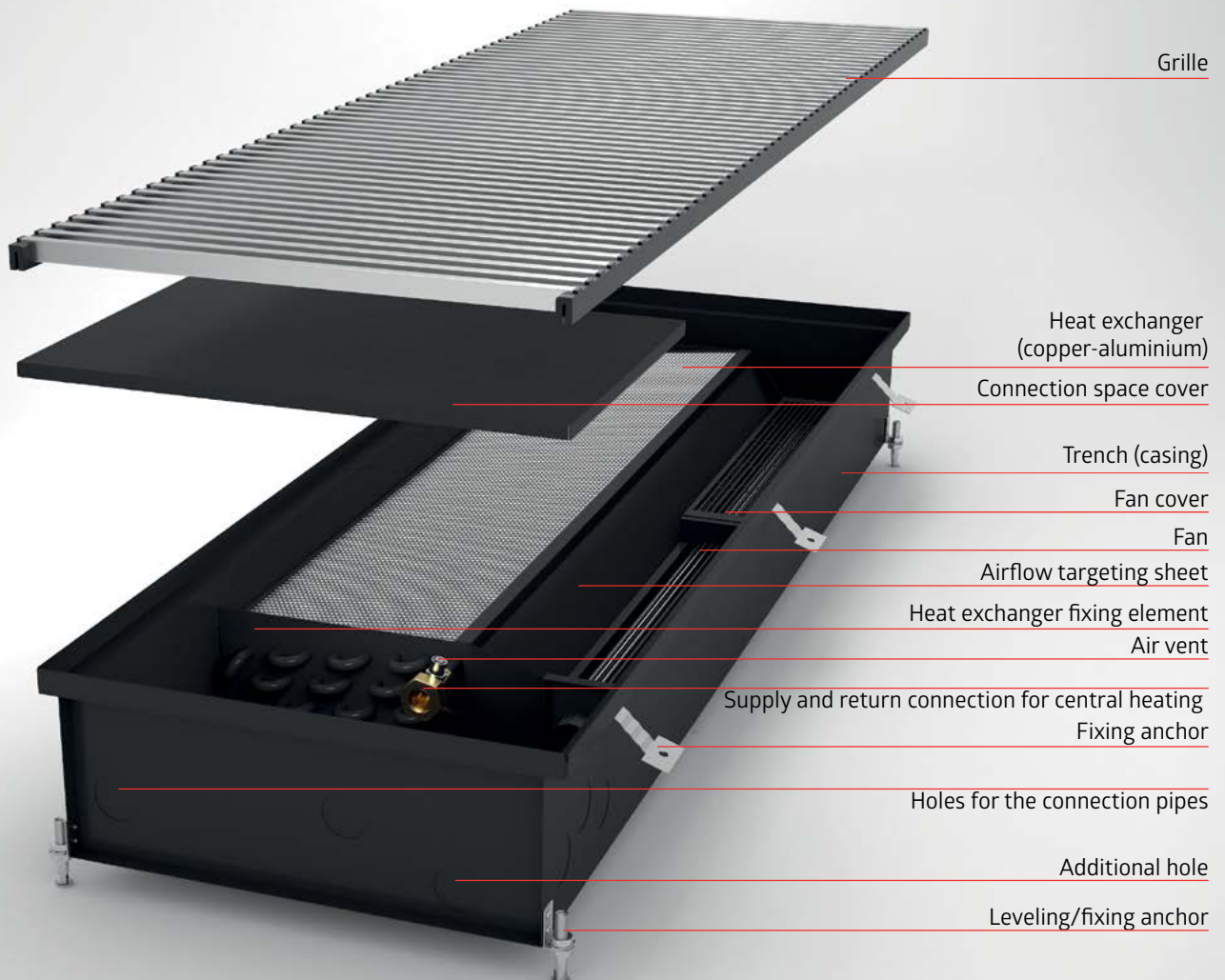
STANDARD equipment:

- trench (casing) made of hot-dip galvanized steel sheet with zinc magnesium coating, powder painted in black RAL 9005,
- high effective copper and aluminium heat exchanger with air vent,
- 24 V DC fan with EC motor,
- fixing anchors and leveling/fixing anchors,
- connection space cover,
- fan cover,
- water connection 2x 3/4"

ADDITIONAL equipment:

- trench (casing) painted in any RAL colour,
- drain kit, must be connected to the sewage system,
- decorative frame around the heater casing, type L or F made of natural aluminum, powder coated in RAL, anodized or can be done as wood imitation,
- aesthetic grille made of aluminum (natural, anodized or powder painted in any RAL color) or stainless steel,
- Installation cover to protect against damage during transport and installation.

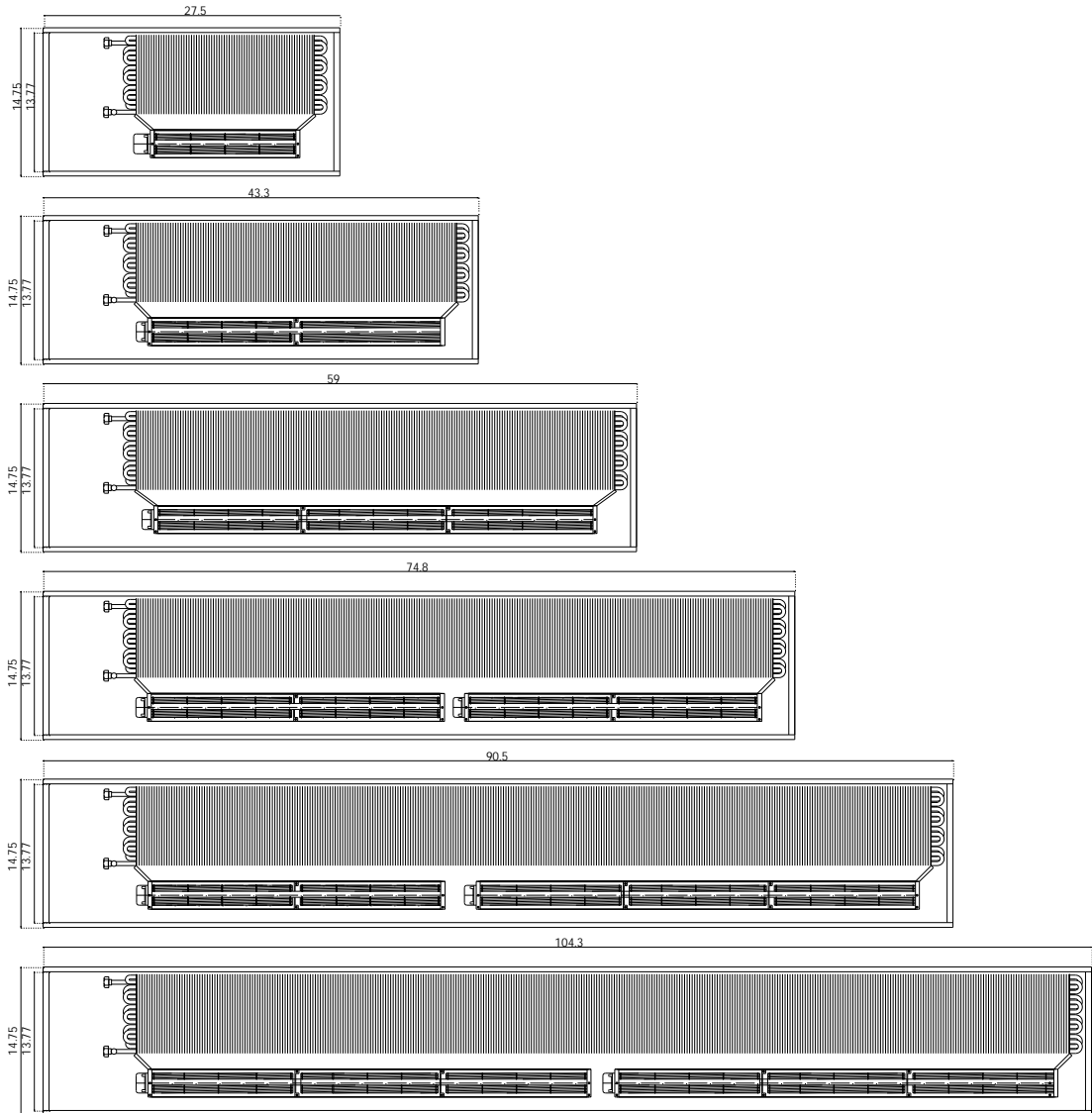
Construction of Verano climaconvector



CVK 2

5.5 in height

Dimensions



Heating output [W]

Ts/Tr °C	L [mm]																	
	750			1100			1500			1900			2300			2650		
	1°	2°	3°	1°	2°	3°	1°	2°	3°	1°	2°	3°	1°	2°	3°	1°	2°	3°
180/160	1209	1662	2313	2176	2992	4163	3251	4470	6219	4326	5947	8275	5400	7425	10331	6341	8718	12130
160/140	CONSULT SOFTWARE AND MDL FOR OTHER CONDITIONS																	
140/120																		
120/100																		
100/80																		

The standard heat output does not include 15% for piping pick-up, according to DIN EN 442-2: 2013 for room air temperature $T_i = 65^\circ \text{F}$. 1° corresponds to the control voltage of 4.5V, 2° corresponds to the control volt 7V, 3° corresponds to the control voltage 10V.

5.5 in height

CVK2-14/35/L-38

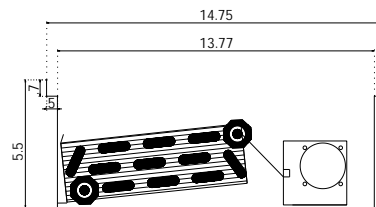
CVK 2

DIMENSIONS	UNIT [inch]
Trench height (H)	5.5
Trench width (W)	13.77
Grille width (Wg)	14.75
Trench length (L)	27.5 ÷ 104.3
Fin type	38

END SPACE LENGHT (Les)	UNIT [inch]
CVK2-14/35/075-38	2.5
Other lengths of CVK2	2.1

CONNECTIONS	TYPE
Connection threads	3/4" one-sided
Side connection to be choosen	Standard Right - P, optional Left - L
Fan from the room side	standard

ACCESORIES	TYPE
Grille H=18 mm	roll-up/linear/modular
Aluminium frame	type L or F
Assembly cover	on request



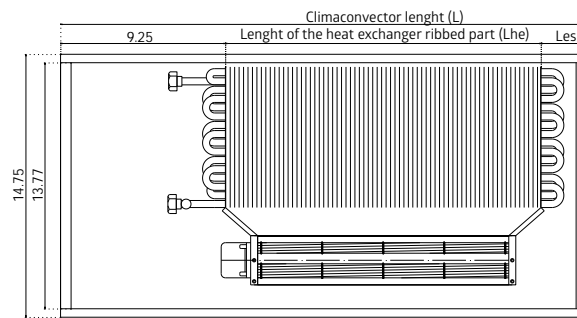
Cross-section of the climaconvector

Please remember!

Order Code for climaconvector CVK2 is:

CVK2-14/35/L-38

where:
 L - length of the trench [mm]



Technical top-view of climaconvector type CVK2-14/35/L-38

Cooling output [BTU/h]

Ts/Tr/Ta °F	29.5			43.3			59			74.8			90.5			104.3		
	1°	2°	3°	1°	2°	3°	1°	2°	3°	1°	2°	3°	1°	2°	3°	1°	2°	3°
45/55/80	931	1497	2626	1678	2684	4733	2506	4017	7069	3328	5340	9405	4157	6667	11,740	4880	7833	13,786
CONSULT SOFTWARE AND MDL FOR OTHER CONDITIONS																		

Cooling output [W] - 1° corresponds to the control voltage of 4.5V, 2° corresponds to the control volt 7V, 3° corresponds to the control voltage 10V

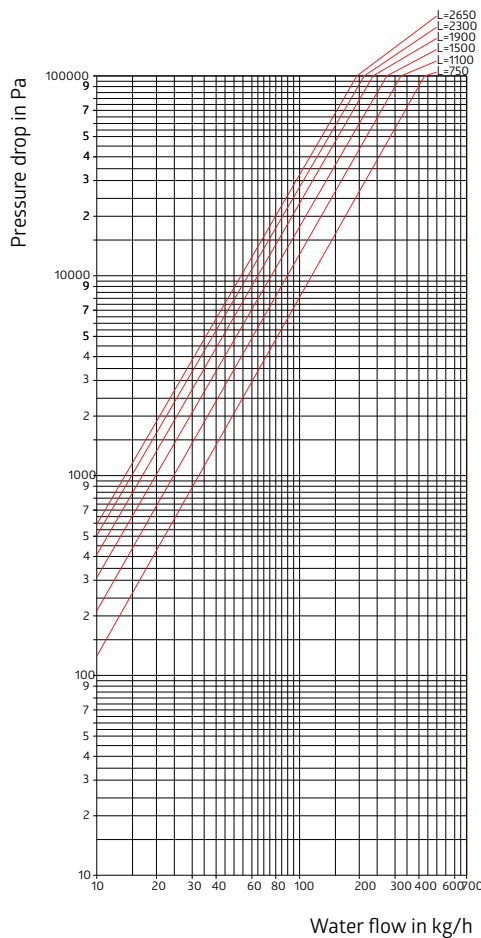
CVK 2

5.5 in height

Power and current

Climaconvector type	Climaconvector length [in]					
	27.5	43.3	59	74.8	90.5	104.3
Number of fan	1	2	3	4	5	6
Number of fan motors	1	1	1	2	2	2
CVK2-14/35/L-38						
Fan voltage [VDC]	24	24	24	24	24	24
Maximum current [A]	0,45	1,00	1,10	2,00	2,10	2,20
Maximum power consumption of the EC fan [W]	10,8	24,0	26,4	48,0	50,4	52,8

Pressure losses [Pa]



Water capacity [dm³]

Climaconvector	Climaconvector length [mm]					
	750	1100	1500	1900	2300	2650
CVK2-14/35/L-38	0,79	1,35	1,97	2,60	3,22	3,77

The maximum allowable working pressure of 1.0 MPa
 The test pressure of 1.3 MPa
 Maximum operating temperature: 110°C

Sound power and pressure level [dB]

Due to the low sound pressure levels compared to the background measurement - value <20 dB, which is out of the hearing values range, are not shown in the table.

Due to the low sound power levels compared to the background measurement - value <28dB, which is out of the hearing values range, are not shown in the table.

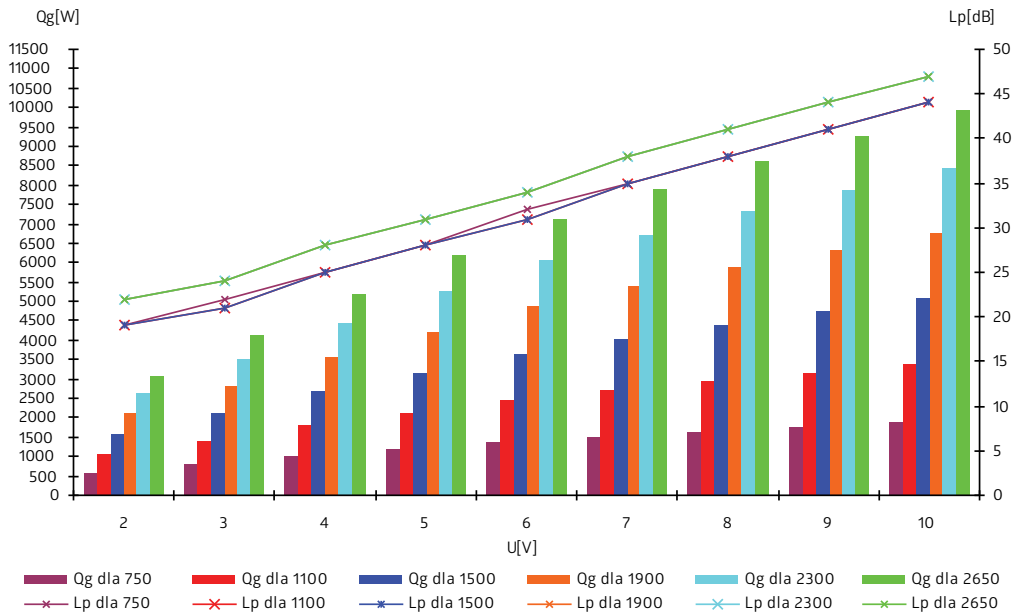
	Control voltage U[V]	Climaconvector length					
		27.5	43.3	59	74.8	90.5	104.3
Sound pressure level Lp (A) [dB]	2	-	-	-	22	22	22
	4	25	25	25	28	28	28
	6	32	31	31	34	34	34
	8	38	38	38	41	41	41
	10	44	44	44	47	47	47
Sound power level Lw (A) [dB]	2	-	-	-	30	30	30
	4	33	33	33	36	36	36
	6	40	39	39	42	42	42
	8	46	46	46	49	49	49
	10	52	52	52	55	55	55

5.5 in height

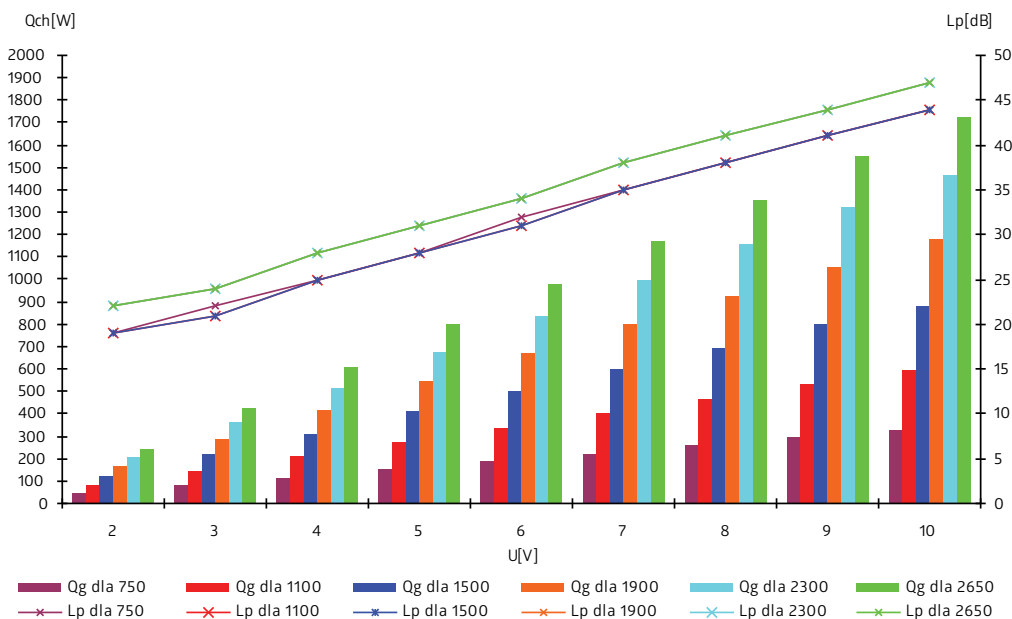
CVK 2

Heating and cooling output and sound pressure.

Please note! Example of the calculation of the heater output and sound pressure (for TURBO VKN5 and CVK) for various values of the voltage is located on page 71



Changes of the heater output Q [W] and the sound pressure level Lp [dB] as a function of control voltage U [V] for the climaconvector type CVK2-14/35/L-38 for Ts/Tr/Ti=75/65/20



Changes of the cooling output Q [W] and the sound pressure level Lp [dB] as a function of control voltage U [V] for the climaconvector type CVK2-14/35/L-38 for Ts/Tr/Ti=19/21/28



5.5 in height

CVK 4

4-pipe Climaconvector type CVK4-14/35/L-38

The equipment of Verano climaconvector

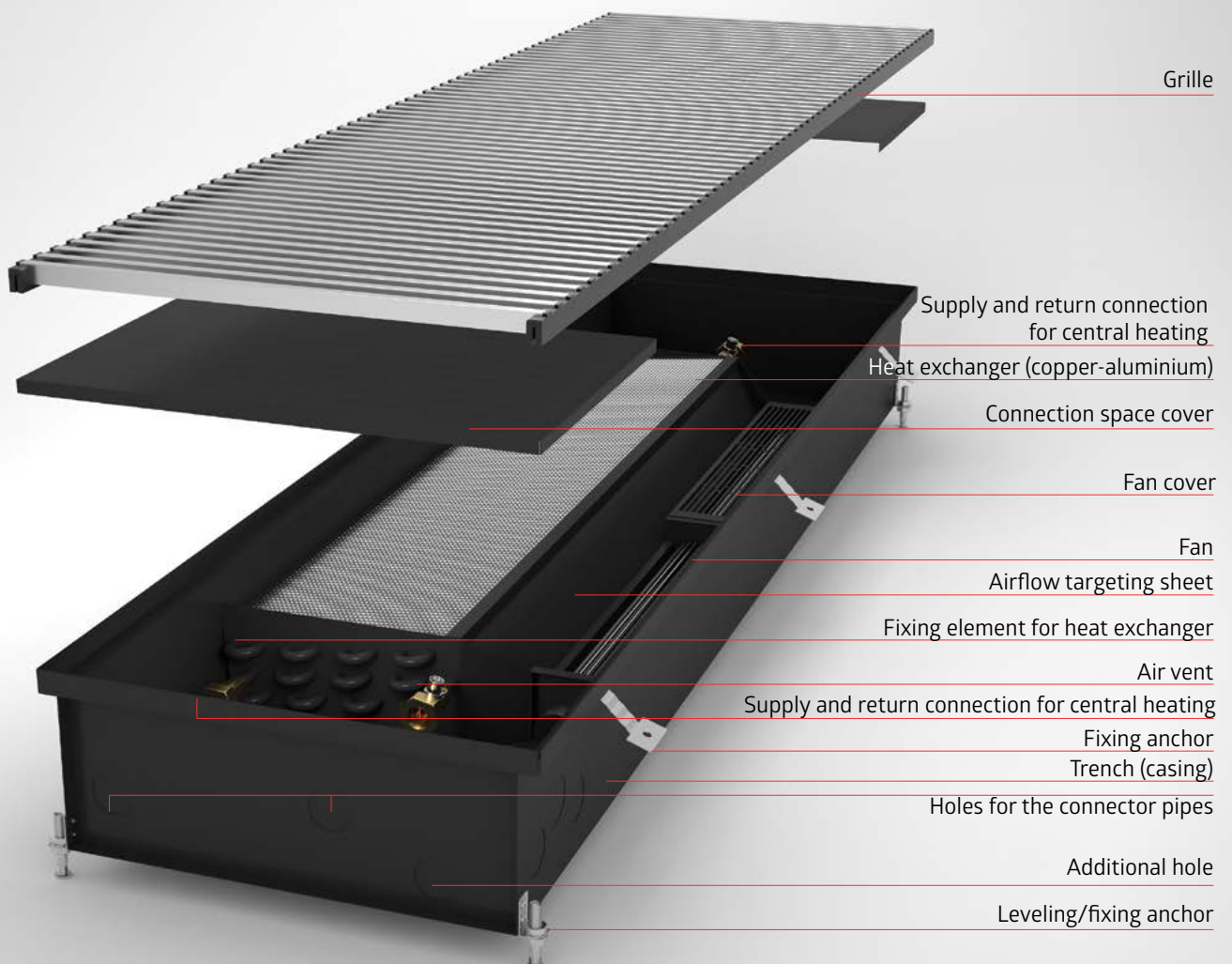
STANDARD equipment:

- trench (casing) made of hot-dip galvanized steel sheet with zinc magnesium coating, powder painted in black RAL 9005,
- high effective copper and aluminium heat exchanger with air vent,
- 24 V DC fan with EC motor,
- fixing anchors and leveling/fixing anchors,
- connection space cover,
- fan cover,
- water connection 4x 3/4".

Additional equipment:

- trench (casing) painted in any RAL colour,
- drain kit, must be connected to the sewage system,
- decorative frame around the heater casing, type L or F made of natural aluminum, powder coated in RAL, anodized or can be done as wood imitation,
- aesthetic grille made of aluminum (natural, anodized or powder painted in any RAL color) or stainless steel,
- Installation cover to protect against damage during transport and installation.

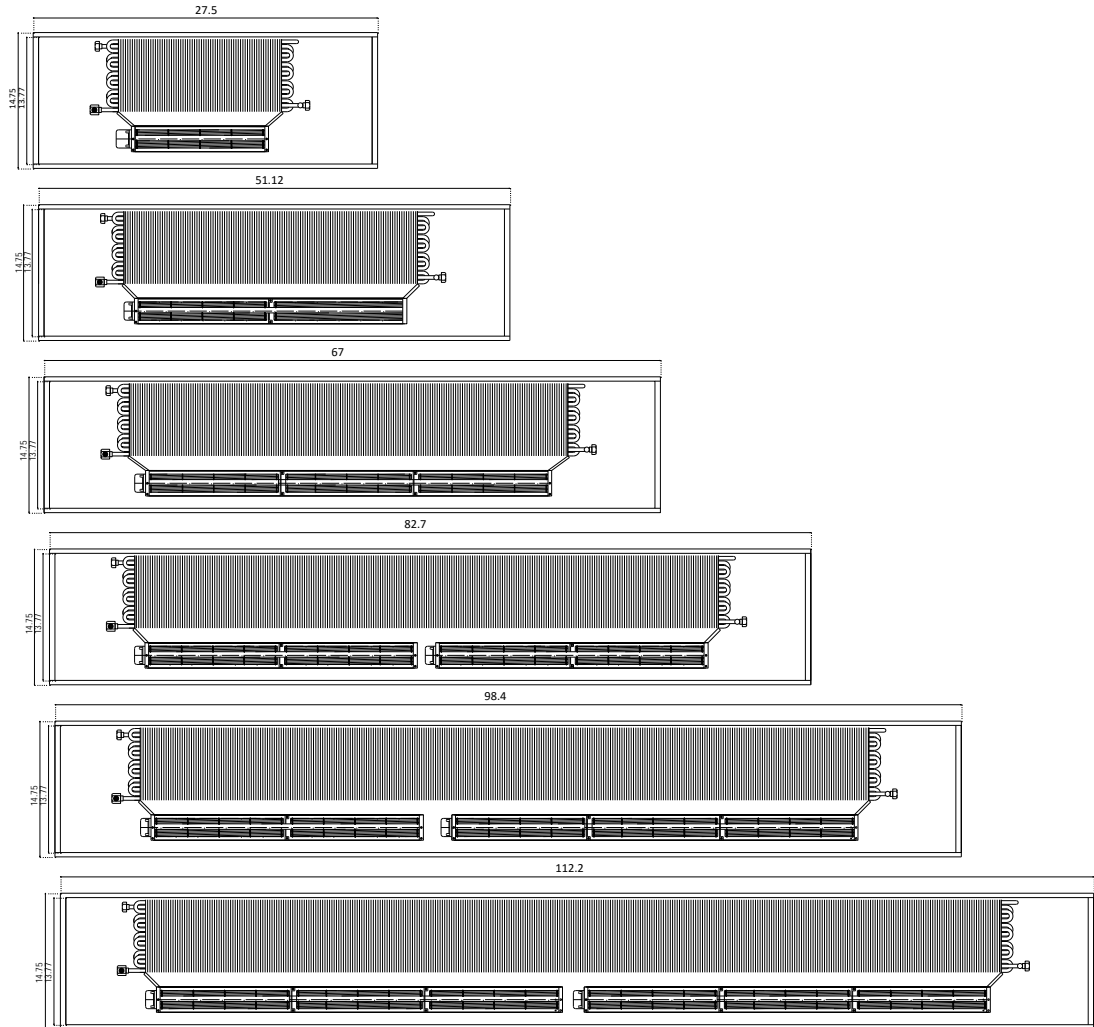
Construction of Verano climaconvector



CVK 4

5.5 in height

Dimensions



Heating output [BTU/h]

Ts/Tr °F	37.4			51.8			67			82.7			98.4			112.2		
	1°	2°	3°	1°	2°	3°	1°	2°	3°	1°	2°	3°	1°	2°	3°	1°	2°	3°
180/160	4007	6151	8777	7215	11075	15798	10775	16541	23597	14339	22014	31402	17899	27480	39200	21019	32264	46030
CONSULT SOFTWARE AND MDL FOR OTHER CONDITIONS																		

The standard heat output does not include 15% for piping pick-up, according to DIN EN 442-2: 2013 for room air temperature $T_i = 65^\circ \text{F}$. 1° corresponds to the control voltage of 4.5V, 2° corresponds to the control volt 7V, 3° corresponds to the control voltage 10V.

5.5 in height

CVK4-14/35/L-38

CVK 4

DIMENSIONS	UNIT [inch]
Trench height (H)	5.5
Trench width (W)	13.77
Grille width (Wg)	14.75
Trench length (L)	37.4 ÷ 112.2
Fin type	38

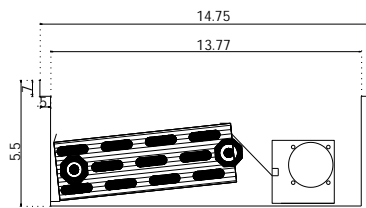
Please remember!

Order Code for climaconvector CVK4 is

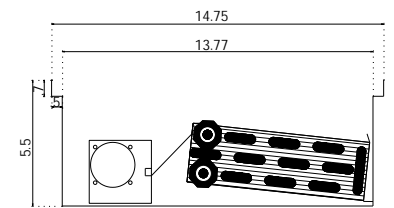
CVK4-14/35/L-38

where:
 L - length of the trench [mm]

END SPACE LENGHT (Les)	UNIT [inch]
CVK4-14/35/095-38	10.43
Other lenghts	10



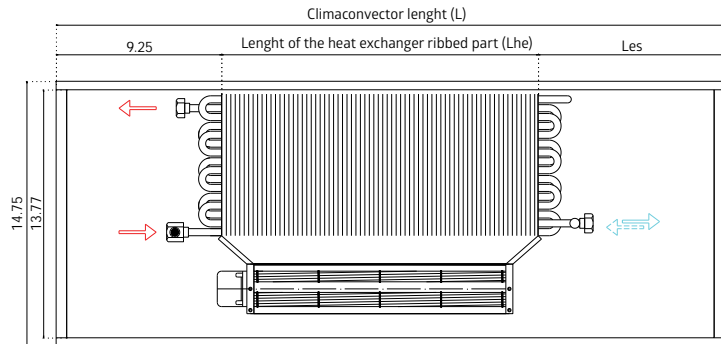
Cross-section of the climaconvector HEATING



Cross-section of the climaconvector COOLING

CONNECTIONS	TYPE
Connection threads	3/4" double-sided
Heating - left side Cooling - right side	standard
Fan from the room side	standard

ACCESSORIES	TYPE
Grille	Roll-up/linear/modular
Aluminium frame	L or F
Assembly cover	on request



Technical top-view of climaconvector type CVK4-14/35/L-38

Cooling output [BTU/h]

Ts/Tr/Ta °F	37.5			51.2			67			82.7			98.4			2850		
	1°	2°	3°	1°	2°	3°	1°	2°	3°	1°	2°	3°	1°	2°	3°	1°	2°	3°
45/55/80	777	1262	2062	1401	2268	3717	2097	3389	5555	2786	4508	7389	3475	5630	9224	4078	6612	10833
CONSULT SOFTWARE AND MDL FOR OTHER CONDITIONS																		

Cooling power [W] - 1° corresponds to the control voltage of 4, 2° corresponds to the control volt 6V, 3° corresponds to the control voltage 10V.

CVK 4

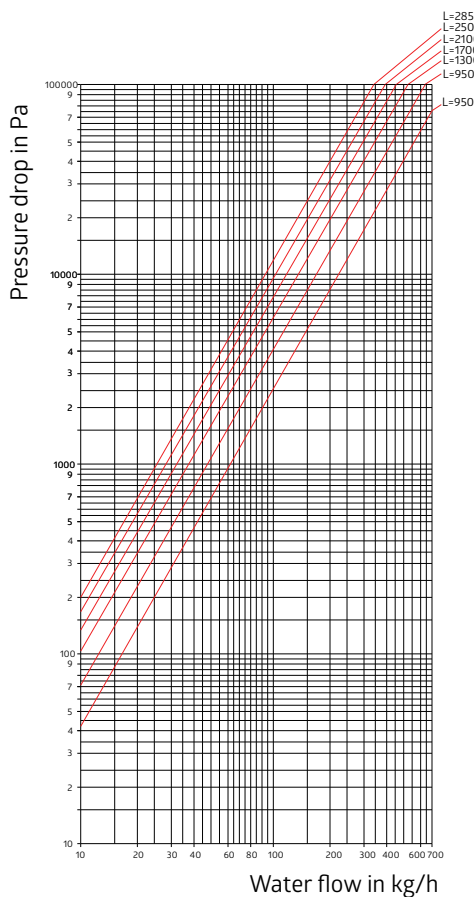
5.5 in height

Power and current

Climaconvector type	Climaconvector lenght [in]					
	37.4	51.2	67	82.7	98.4	112.2
Number of fan	1	2	3	4	5	6
Number of fan motors	1	1	1	2	2	2
CVK4-14/35/L-38	Fan voltage [VDC]					
	24	24	24	24	24	24
	Maximum current [A]					
	0,45	1,00	1,10	2,00	2,10	2,20
	Maximum power consumption of the EC fan [W]					
	10,8	24,0	26,4	48,0	50,4	52,8

Pressure losses [Pa]

Water capacity [dm³]



Climaconvector	Climaconvector lenght [mm]					
	950	1300	1700	2100	2500	2850
Heating	0,26	0,45	0,66	0,87	1,07	1,26
Cooling	0,53	0,90	1,32	1,73	2,15	2,51

The maximum allowable working pressure of 1.0 MPa
The test pressure of 1.3 MPa
Maximum operating temperature: 110°C

5.5 in height

CVK 4

Sound power and pressure level [dB]

	Control voltage U[V]	Climaconvector lenght [in]					
		37.4	51.2	67	82.7	98.4	112.2
Sound pressure level Lp (A) [dB]	2	-	-	-	22	22	22
	4	25	25	25	28	28	28
	6	32	31	31	34	34	34
	8	38	38	38	41	41	41
	10	44	44	44	47	47	47
Sound power level Lw (A) [dB]	2	-	-	-	30	30	30
	4	33	33	33	36	36	36
	6	40	39	39	42	42	42
	8	46	46	46	49	49	49
	10	52	52	52	55	55	55

Due to the low sound pressure levels compared to the background measurement - value <20 dB, which is out of the hearing values range, are not shown in the table.

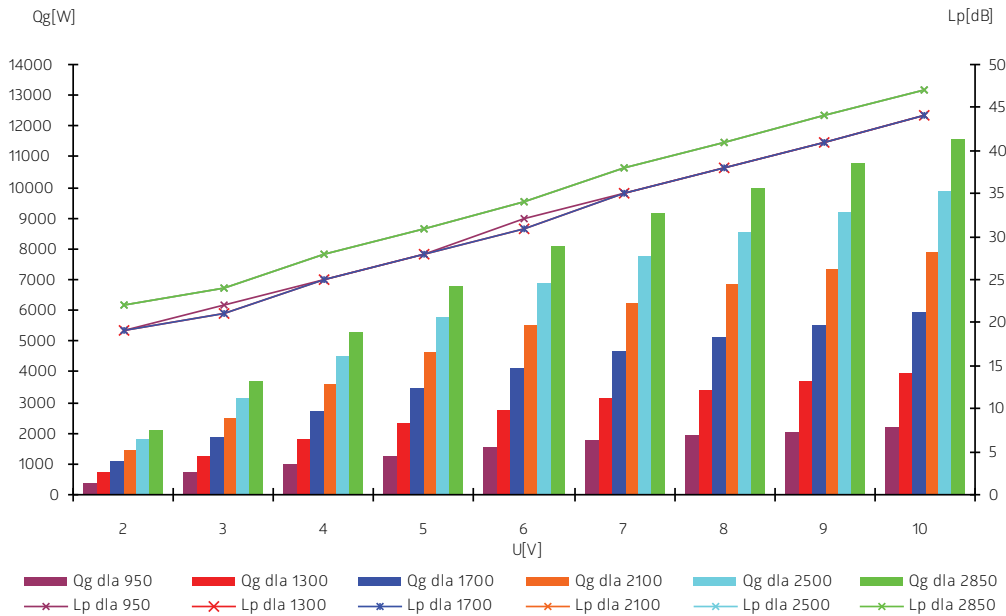
Due to the low sound power levels compared to the background measurement - value <28dB, which is out of the hearing values range, are not shown in the table.

CVK 4

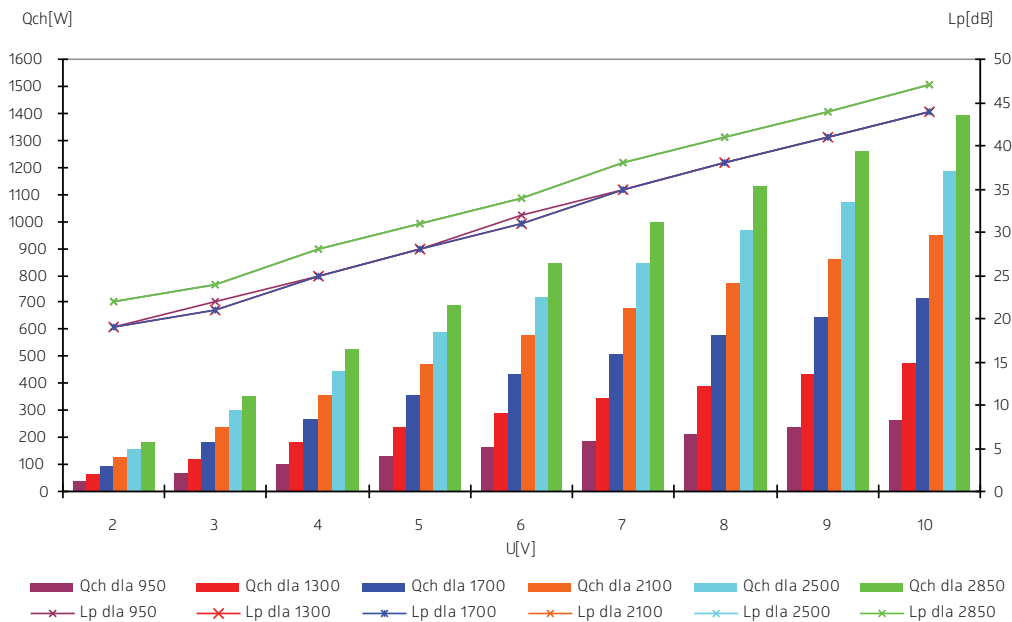
5.5 in height

Heating and cooling output and sound pressure

Please note! Example of the calculation of the heater output and sound pressure (for TURBO VKN5 and CVK) for various values of the voltage is located on page 71



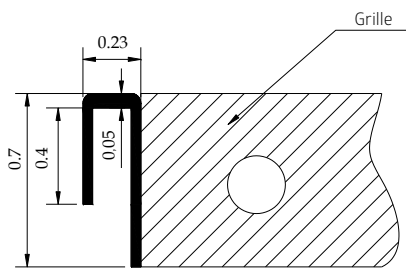
Changes of the heater output Q [W] and the sound pressure level Lp [dB] as a function of control voltage U [V] for the climaconvector type CVK4-14/35/L-38 for Ts/Tr/Ti=75/65/20



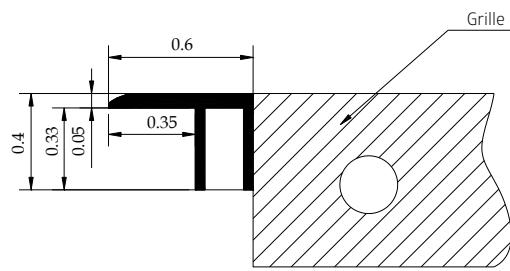
Changes of the cooling output Q [W] and the sound pressure level Lp [dB] as a function of control voltage U [V] for the climaconvector type CVK4-14/35/L-38 for Ts/Tr/Ti=19/21/28

Frame for trench heaters and climaconvectors

Frame details



Frame type L

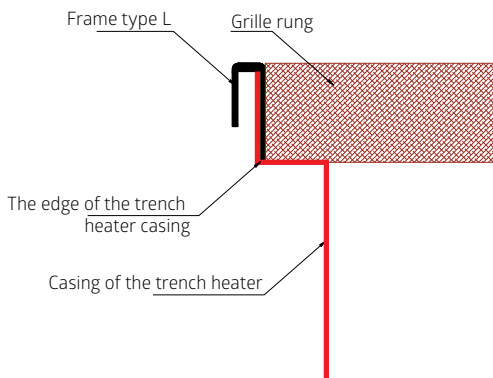


Frame type F

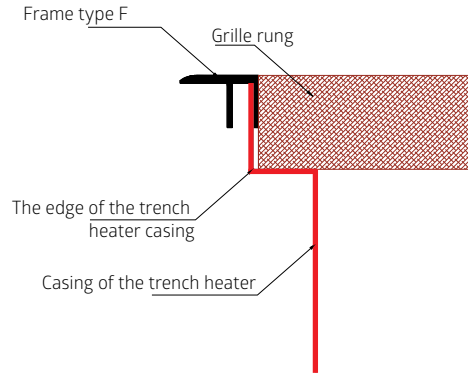
Frame assembly instruction

Aluminium frame type L is a decorative element, and type F apart of the decorative function is also as a masking element which can cover the space between the floor and the duct of the trench heater.

The frame F is supplied as a cut off elements for self-assembly. Assembly of the frame type F must be done by using a silicone glue. The manufacturer is not liable for problems associated with frame assembling for trench casing deformation caused by the improper installation of the heater..



Frame type L



Frame type F

FRAME

Grilles for trench heaters and climaconvectors

Roll-up wooden grille

The grille is made of natural wood

Standard:

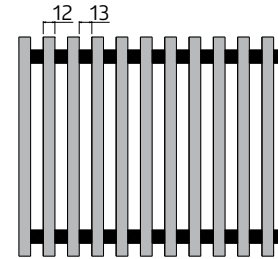
Spacings (sleeves) between the rungs are made of black PVC.

Option:

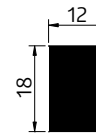
- Spacings (sleeves) are also available in colors:
 - gray WG-15
 - beige W8-29
 - light brown RAL 8256
 - dark brown RAL 8352
- wooden spacing (beech unvarnished, L = 17 mm)

The grille is only available in a roll-up version.

The maximum length of one grille section is 6000 mm



Top view



Cross-section of a wooden rung

Type of the grille	Name of the grille	Order code
Roll-up wooden grille	Roll-up oak grille	ZD-1,8/W/L
	Roll-up ash grille	ZJ-1,8/W/L
	Roll-up beech grille	ZB-1,8/W/L
	Roll-up merbau grille	ZM-1,8/W/L
	Roll-up jatoba grille	ZJB-1,8/W/L

Roll-up aluminium grille



The grille is made of aluminium - profile closed

The grille options:

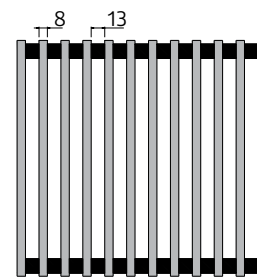
- natural aluminium
- aluminium painted in RAL
- anodized aluminium
- aluminium - wood imitation (profile closed only)

Standard:

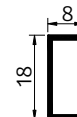
Spacings (sleeves) between rungs as a standard are made of black PVC.

Opcja:

- Spacings (sleeves) are also available in colors:
 - gray WG-15
 - beige W8-29
 - light brown RAL 8256
 - dark brown RAL 8352



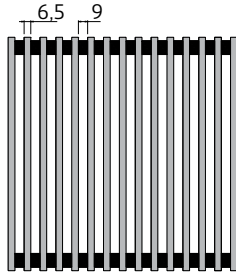
Top view



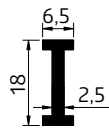
Cross-section of aluminium grille - profile closed

Type of the grille	Name of the grille	Order code
Roll-up aluminium grille - profile closed	Roll-up natural aluminium grille - profile closed	ZAL-1,8/W/L
	Roll-up painted in RAL aluminium grille - profile closed	ZRAL-1,8/W/L
	Roll-up anodized aluminium grille - profile closed	ZAAL-1,8/W/L
	Roll-up wood imitation aluminium grille - profile closed	ZIAL-1,8/W/L

FRAME



Top view



Cross-section of grille
 - I-beam profile

Roll-up aluminium grille – I-beam profile

The grille is made of aluminium – I-beam profile

- The grille options:
- natural aluminium
 - aluminium painted in RAL
 - anodized aluminium

Standard:

Spacings (sleeves) between rungs as a standard are made of black PVC.

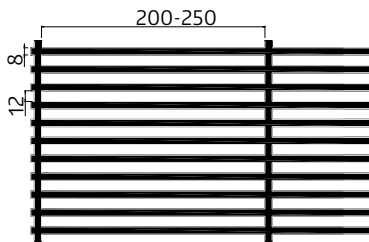
Option:

- Spacings (sleeves) are also available in colors:
 - gray WG-15
 - beige W8-29
 - light brown RAL 8256
 - dark brown RAL 8352

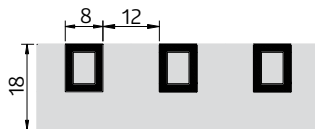


Type of the grille	Name of the grille	Order code
Roll-up aluminium grille – I-beam profile	Roll-up natural aluminium grille – I-beam profile	ZDW-1,8/W/L
	Roll-up painted in RAL aluminium grille – I-beam profile	ZRDW-1,8/W/L
	Roll-up anodized aluminium grille – I-beam profile	ZADW-1,8/W/L

Linear aluminium grille



Top view



Cross-section of linear grille
 painted in RAL

The grille is made of aluminium – profile closed.

The grill is made in total of aluminium.

The grille is only available in RAL colours.

Standard colour is black RAL 9005.



Type of the grille	Name of the grille	Order code
Linear grille	Linear painted in RAL aluminium grille – profile closed	ALWR-1,8/W/L

FRAME

Modular aluminium grille

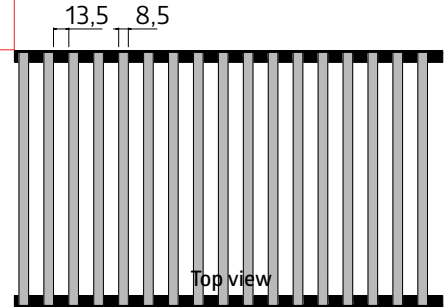
The grille is made of aluminium.

The grille options:

- natural aluminium
- aluminium painted in RAL
- anodized aluminium
- aluminium - wood imitation

Spacings (rung fasteners) are made of black plastic.

The length of single module is 440 mm.



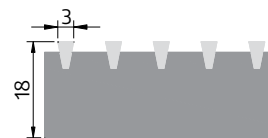
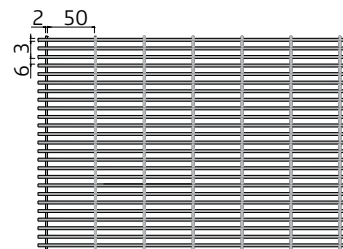
Type of the grille	Name of the grille	Order code
Modular aluminium grille – profile closed	Modular natural aluminium grille – profile closed	MAL-1,8/W/L
	Modular painted in RAL aluminium grille – profile closed	MRAL-1,8/W/L
	Modular anodized aluminium grille – profile closed	MAAL-1,8/W/L
	Modular wood imitation aluminium grille – profile closed	MIAL-1,8/W/L

Linear stainless steel grille

The grille is available only as a rigid version.

The maximum length of one section of the grille is 2000 mm.

Grille length longer than 2000mm are made of several elements of equal lengths.



Cross-section of stainless steel grille

Type of the grille	Name of the grille	Order code
Stainless steel grille	Linear stainless steel grille	SN-1,8/W/L

FRAME

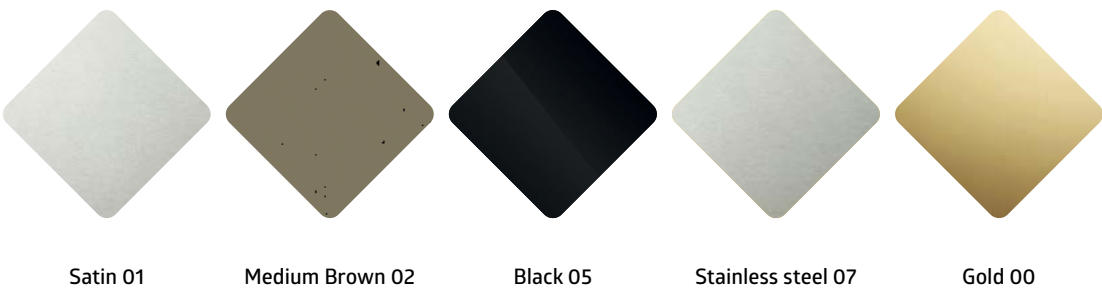
Wooden grille

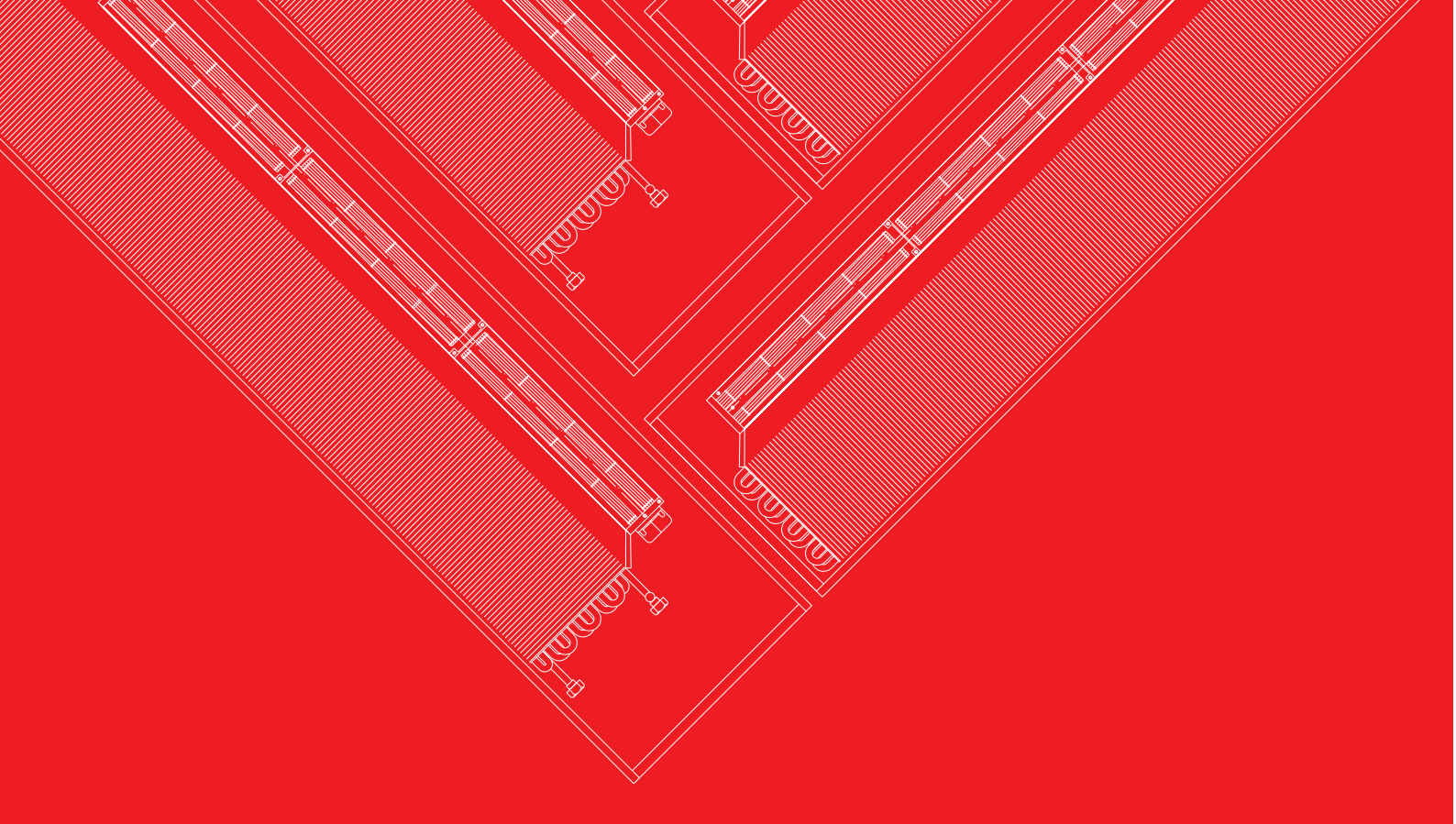


Wood imitation aluminium grille



Anodized aluminium grille





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After completion the edition of the directory on the 21.01.2015, may have been some changes in the products listed in.
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Illustrations may include optional accessories. Printing technology can affect the differences in the forward colors.
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