



MDL Ventilation FanCoil VCVK TECHNICAL Catalogue

VCVK





Ventilation Climaconvector type VCVK2, VCVK4, VCVKS



The most recent MDL Verano products – masters floor raised floor and pressurized plenum, enhancing two and four pipe climaconvectors with ventilation. Having been developed as a technical concept on the foundation of widely conducted ventilation R&D works. Many analyses and tests focusing on optimization of perimeter heating and cooling systems with integrating fresh air, tempered air or using our partnered HRV core for ultimate comfort.

Climaconvectors main feature is the ability to seamlessly transition ventilation air to localized comfort - via the high capacity dual core heat exchanger which can Heat/Cool. Using our latest in ECM 24V Low Voltage fans - we are revolutionizing the HVAC industry with serious energy reduction and reduced operating costs. The effectiveness of the climaconvector improves total comfort while being invisible to the senses, with whisper quiet fans and LED power consumption.

Climaconvectors will provide appropriate temperature combined with ventilation requirements to ensure an optimal climate control both during summer and winter. The output range and variety of length available provide variety of combinations for all applications.

Ventilation climaconvectors have a depth of 7.25inch are available in floor mounted (VCVK2) or raised floor (CVKS) or pressurized plenum versions, combined with either two pipes Climaconvectors (VCVK2) or four pipes units (VCVK4).

Customization is always possible of occurs.

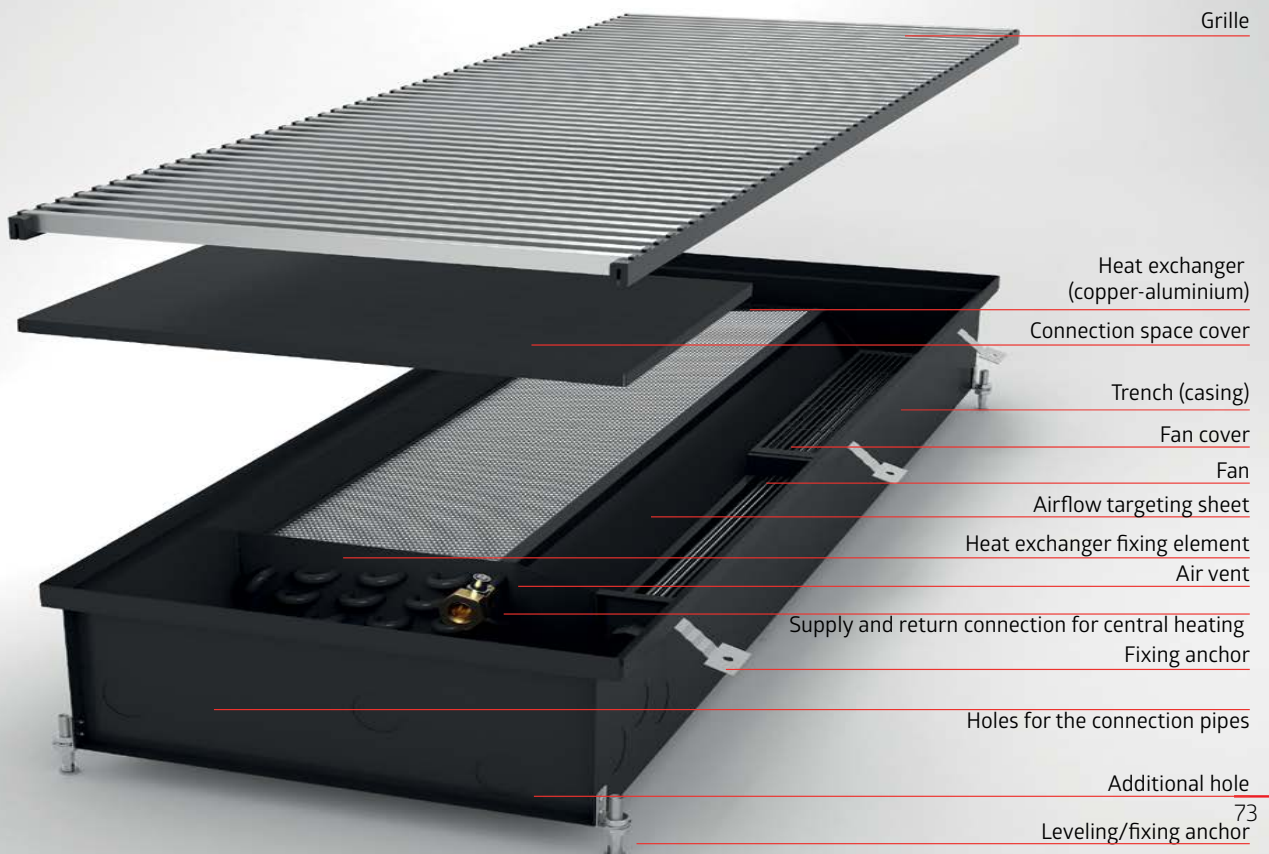
STANDARD equipment:

- Trench (casing) made of steel coated steel zinc-magnesium, standard powder coating black RAL 9005,
- Highly Capacity copper - aluminum heat exchanger coated in black with air vent,
- 24V DC fan with EC motor (Tangential fan option)
- Connection space cover,
- Fan cover,
- Strut assembly
- Coated condensate drip pan
- 3/4" condensate connection
- Fixing anchors
- Duct connection Ø 4inch mechanical ventilation,
- Built-in air flow modulator

ADDITIONAL equipment:

- Trench (casing) powder coated in any color RAL,
- Condensate removal kit
- Decorative frame around trench casing type L or F made natural aluminum or anodized, power coated in RAL, anodized or can be done as wood imitation,
- Aesthetic grille made of aluminum (natural anodized or powder coated in any color RAL) or stainless steel,
- Installation Cover to protect fan coil unit from damage during transport and installation.
- Dust filter
- Insulation between trench casing and grille,
- Height adjustments
- Mounting kit for raised floor.

Construction of the Ventilation climaconvector





SUMMARY [inch]

Trench Height (H)	7-1/8
Trench Width (B)	13-3/4
Trench Length (L)	49-1/4 to 108-1/4
Options available for custom length (NS)	Order Code VCVK4-H/B/ (L/P)

Heat Output [BTU/h]

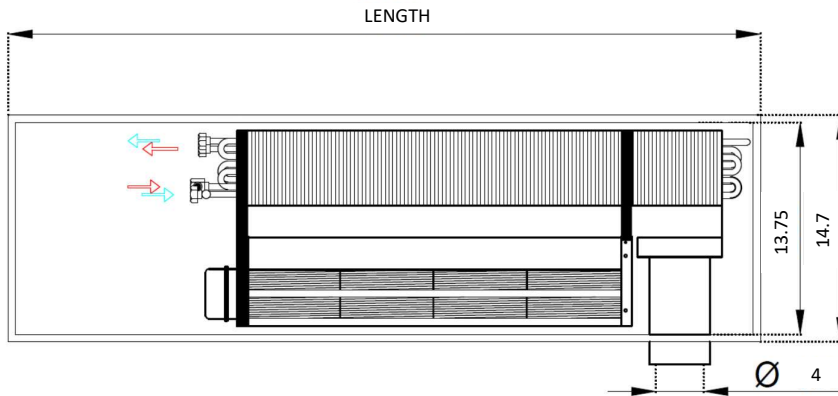
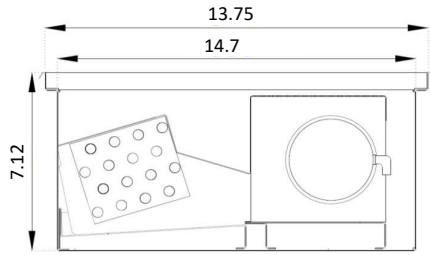
T _z /T _p	L [inch]								
	49-1/4			78-1/4			108-1/4		
	1°	2°	3°	1°	2°	3°	1°	2°	3°
180/160	7370	10476	13397	12849	18380	23385	18330	26367	33359
170/150	6092	8660	11075	10622	15194	19331	15153	21797	27576
160/140	5459	7760	9924	9518	13615	17322	13578	19531	24710
150/130	4837	6875	8793	8433	12063	15347	12030	17304	21893
140/120	3625	5153	6590	6320	9040	11502	9016	12969	16407
120/100	2577	3663	4684	4492	6426	8176	6409	9219	11663
110/90	2014	2863	3662	3512	5024	6392	5010	7207	9118

The standard heating capacity according to EN 16430 for room temperature T_i = 68°F Heating capacity may vary depending on the temperature of the supply air. 1° corresponds to the control voltage of 4V, 2° corresponds to the control voltage of 7V, 3° corresponds to the control voltage of 10V

The data presented in the technical data sheet is correct at time of printing and is subject to change resulting from the certification testing conducted in the test. Due to the continuous development of the company and the desire to improve the quality of products MDL Solutions reserves the right to make changes without prior notice.

VCVK 4

MDL VCVK P-18/35/L



DIMENSIONS	UNIT [inch]
Trench Height (H)	7-1/8
Trench Width (B)	13-3/4
Grille Width (Bk)	14-23/32
Lengths (L)	49-1/4
CONNECTIONS	TYPE
Pipe Connection	Left(L) standard, Right (P) option
ACCESORIES	TYPE
Grille	Roll-up Linear Modular
Aluminum Frame	L OR F
	Protective Installation cover Sound Damping, raised floor mount bracket, Height adjustable, Particle filter

Total Cooling output [BTU/h]

T _z /T _p	L [inch]								
	49-1/4			78-1/4			108-1/4		
	1°	2°	3°	1°	2°	3°	1°	2°	3°
60/65/80	1284	2270	3073	2236	3762	5456	3189	5404	7804
55/60/80	1648	2915	3945	2871	4831	7005	4094	6939	10021
50/60/80	1936	3424	4633	3372	5673	8227	4809	8150	11769
45/55/80	2465	4359	5899	4293	7223	10475	6122	10376	14984
40/50/80	3366	5953	8056	5863	9865	14305	8361	14170	20463

Cooling output according to EN 16430 Cooling capacity may vary depending on the temperature of the supply air; Shown at 50% RH
1° corresponds to the control voltage of 4V, 2° corresponds to the control voltage of 7V, 3° corresponds to the control voltage of 10V

Sensible Cooling output [BTU/h]

T _z /T _p	L [inch]								
	49-1/4			78-1/4			108-1/4		
	1°	2°	3°	1°	2°	3°	1°	2°	3°
60/65/80	1284	2270	3073	2236	3762	5456	3189	5404	7804
55/60/80	1540	2724	3687	2683	4515	6547	3826	6485	9365
50/60/80	1669	2951	3994	2907	4891	7092	4145	7026	10146
45/55/80	1925	3405	4609	3354	5643	8183	4783	8107	11707
40/50/80	2439	4314	5838	4249	7148	10366	6058	10268	14828

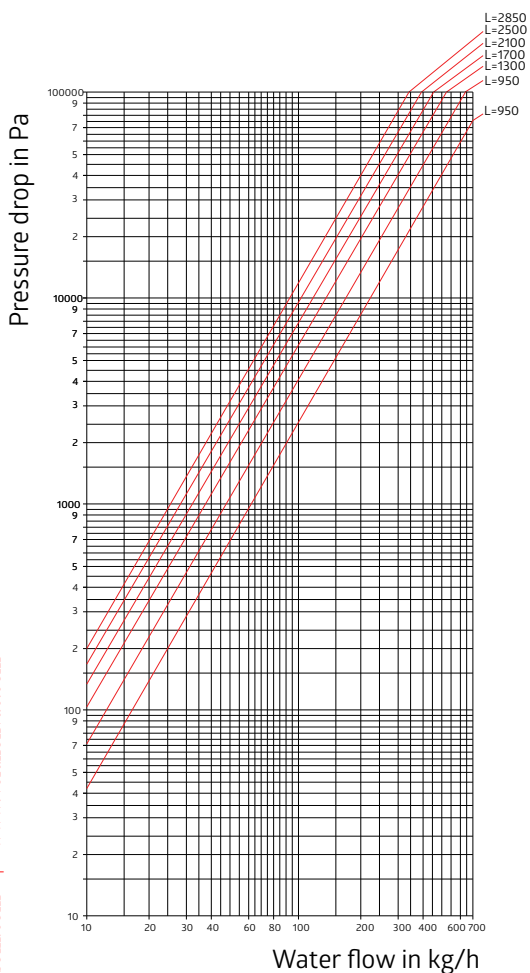
Cooling output according to EN 16430 The power cooling does not take into account the latent heat Cooling capacity may vary depending on the temperature of the supply air; Shown at 50% RH. 1° corresponds to the control voltage of 4V, 2° corresponds to the control voltage of 7V, 3° corresponds to the control voltage of 10V

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TYP	MDL Ventilation Clima Convector [inch]	49-1/4	78-3/4	108-1/4
VCK P-18/35/	Number of fans	1	2	3
	Fan Voltage [VDC]	24		
	Maximum Current [A]	2,15	4,3	6,45
	Maximum Power Consumption of EC Motor ^o [W]	51,6	103,2	154,8

Pressure losses [Pa]

Water capacity [dm³]



Climaconvector	Climaconvector lengt [INCH]		
	49-1/4	78-1/4	108-1/4
Heating	0,45	0,87	1,26
Cooling	0,90	1,73	2,51

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

VCVK 4

Sound Power and Pressure level [dB]

	Fan Speed	MDL Ventilation Clima Convector [inch]		
		49-1/4	78-3/4	108-1/4
Sound Pressure Level Lp [dB(A)]				
Sound pressure Level Lp (A) [dB]	1-5 V Low	-	-	19
	6-8 V Medium	34	38	41
	9-10V High (Boost)	47	50	51
Sound power Level Lp (A) [dB]	1-5 V Low	-	-	20
	6-8 V Medium	45	48	50
	9-10V High (Boost)	56	59	61

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

The sound pressure level has been measured in accordance with ISO-3745. These values do not include the noise source having a ventilation

Air Flow @ 0.05 in H2O External Static

	Fan Speed	MDL Ventilation Clima Convector [inch]		
		49-1/4	78-3/4	108-1/4
CFM				
VCVK P-18/35/L-44	1-5 V Low	80	140	220
	6-8 V Medium	150	285	410
	9-10V High (Boost)	185	355	510

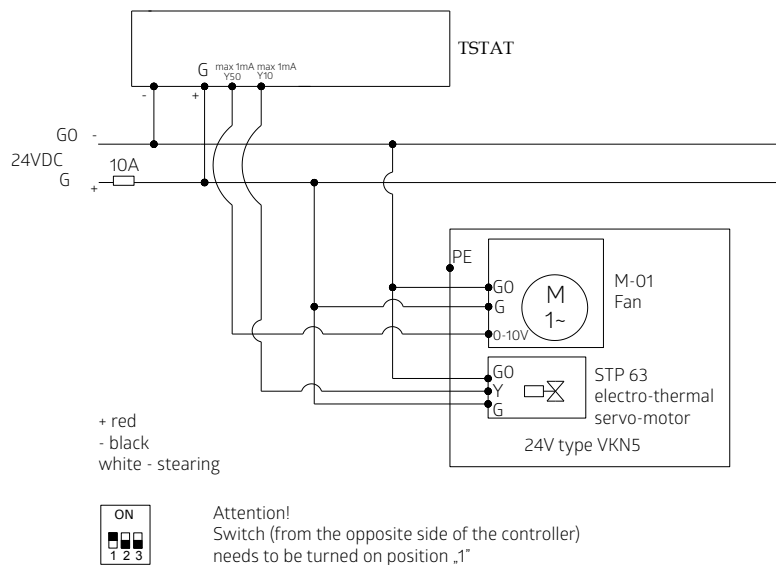
Electrical connection instruction

Attention!

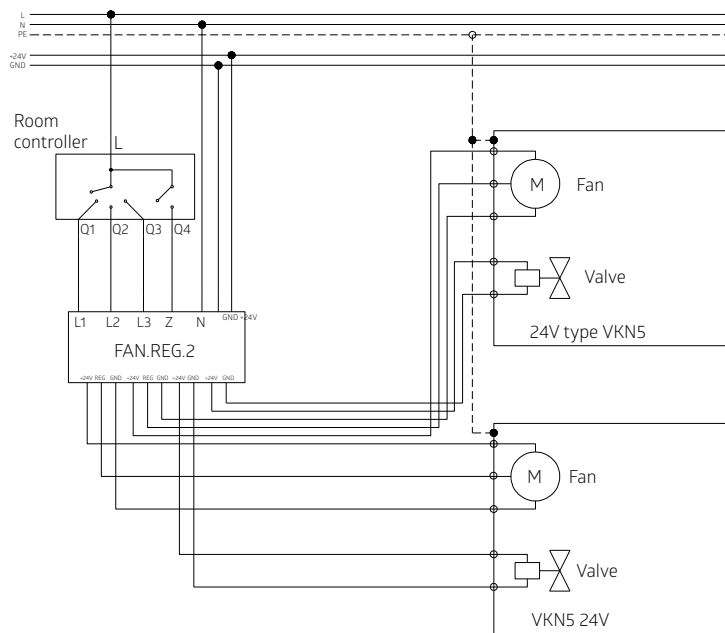
Electrical connections can be only done by appropriate licensed person and in compliance with electric standards.

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

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



Wiring diagram for the RDG160T TSTAT



Wiring diagram for the other controllers

Room temperature controller VER-24



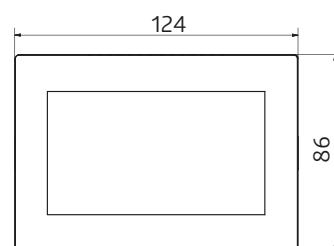
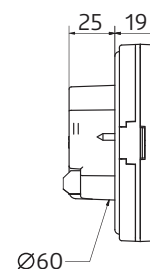
TOUCHSCREEN

2MM FRONT
 PANEL GLASS

FLUSH
 MOUNTING

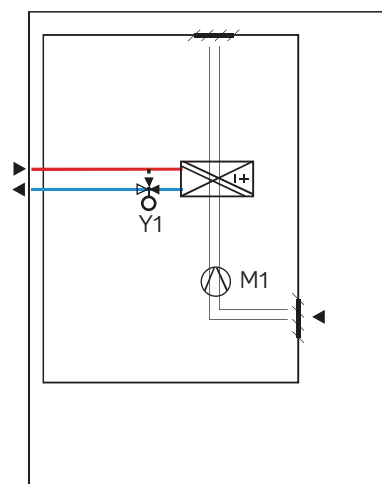
Room temperature controller VER-24

- ◆ 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 VERANO Trench Heaters with Natural Convection type VK15

Name	Description	
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 ADN 15	Valve diameter 15 DN	
Angular return valve type Siemens AEN 15	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	
Thermostatic valve with remote control setpoint type Siemens RTN 81	Remote setting element with 2m long capilar	
Thermal servo-motor type Siemens STA 23 or STA 23/00	Supply voltage 230 V AC, STA23 with 1 m connection cable, 2-position control, STA23/00 need a separate cable ASY23L...	
Cabel – type Siemens ASY23L...	Connecting cable to STA 23/00 length 2m, 3m, 5m, 2-position control	
Room temperature controller type Siemens RDD 100	Operating modes: Comfort, Economy, Protection. 2-position control ON/OFF for he- ating. Power Supply 230 V AC (RDD100) or battery 3 V DC (RDD100.1)	
Room temperature controller type Siemens RDE 100	Operating modes: Normal mode and Energy sa- ving. 2-position control with ON/OFF for heating. Weekly program and manual control; Power Supply 230 V AC (RDE10) or battery 3 V DC (RDE10.1)	
Room thermostat type Siemens RAA21	Digital input thermostat (on/off) with changeover contact for automatic room temperature control and other applications in heating and air conditioning systems; Designed for use in small and medium-sized installations.	






















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

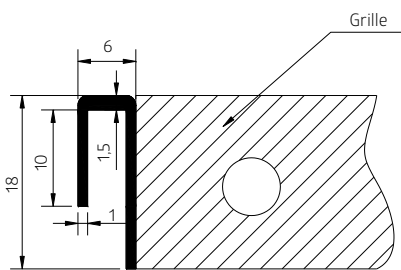
Name	Description	Net price
Thermostatic head SH Diamant White Cat. No. 600100001	Schlösser thermostatic heads with connection thread M30x1.5 cooperate with all Schlösser valves as well as with other valves with inserts M30x1.5 and closing dimension 11,5 mm	
Thermostatic head SH Diamant Plus White-Chrome 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

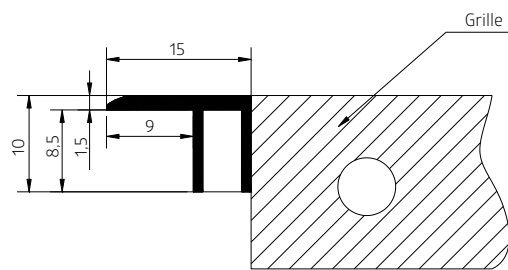
Name	Description	Net price
Straight thermostatic valve type Siemens VDN 215	Valve diameter 15 DN	
Angular thermostatic valve type Siemens VEN 215	Valve diameter 15 DN	
Straight return valve type Siemens ADN15	Valve diameter 15 DN	
Angular return valve type Siemens AEN15	Valve diameter 15 DN	
Straight 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	

Frame for trench heaters and climaconvectors

Frame details



Frame type L

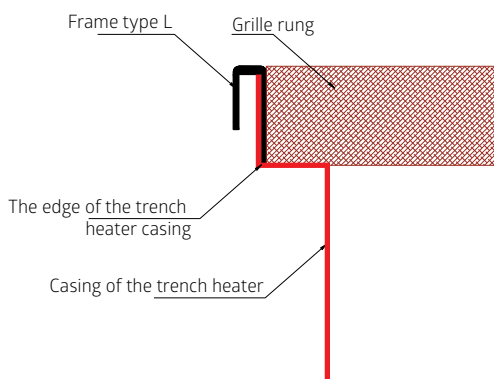


Frame type F

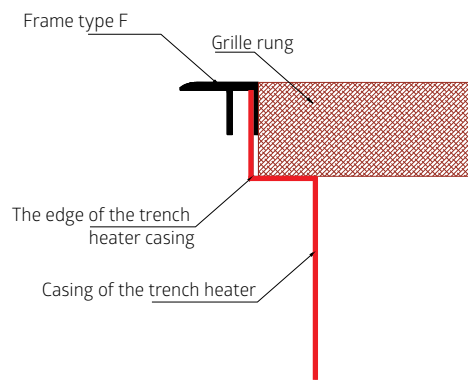
Frame assembly instruction

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:

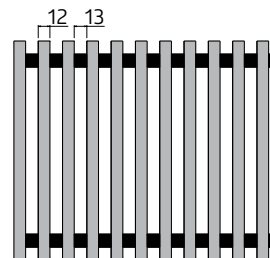
Spacings (sleeves) between the rungs are made of black PVC.

Option:

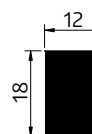
- Spacings (sleeves) are also available in colors:
 - gray WG-15
 - beige W8-29
 - light brown RAL 8256
 - dark brown RAL 8352
- wooden spacing (beech unvarnished, L = 17 mm)

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:

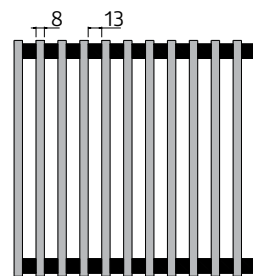
- natural aluminium
- aluminium painted in RAL
- anodized aluminium
- aluminium - wood imitation (profile closed only)

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

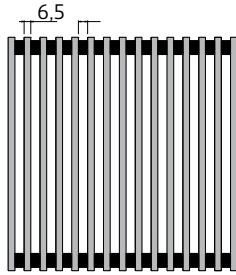


Cross-section of aluminium grille - profile closed

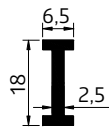
Type of the grille	Name of the grille	Order code
Roll-up aluminium grille - profile closed	Roll-up natural aluminium grille - profile closed	ZAL-1,8/W/L
	Roll-up painted in RAL aluminium grille - profile closed	ZRAL-1,8/W/L
	Roll-up anodized aluminium grille - profile closed	ZAAL-1,8/W/L
	Roll-up wood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

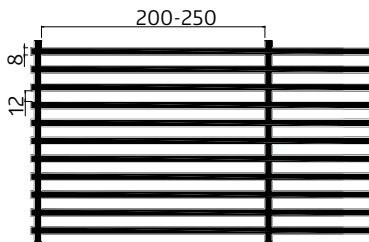
Option:

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

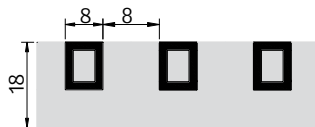


Type of the grille	Name of the grille	Order code
Roll-up aluminium grille – I-beam profile	Roll-up natural aluminium grille – I-beam profile	ZDW-1,8/W/L
	Roll-up painted in RAL aluminium grille – I-beam profile	ZRDW-1,8/W/L
	Roll-up anodized aluminium grille – I-beam profile	ZADW-1,8/W/L

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

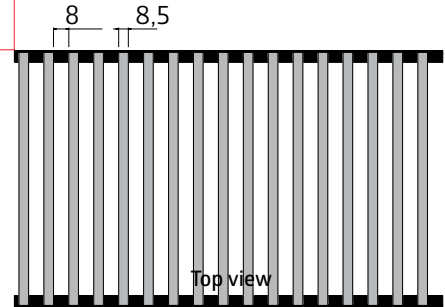
The grille is made of aluminium.

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.



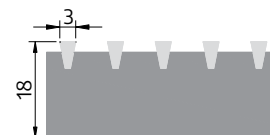
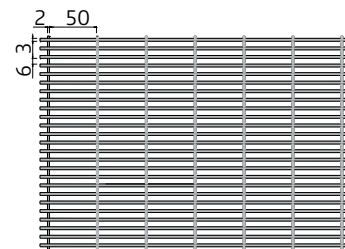
Type of the grille	Name of the grille	Order code
Modular aluminium grille – profile closed	Modular natural aluminium grille – profile closed	MAL-1,8/W/L
	Modular painted in RAL aluminium grille – profile closed	MRAL-1,8/W/L
	Modular anodized aluminium grille – profile closed	MAAL-1,8/W/L
	Modular wood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

