

Trench Heaters

Natural Convection Trench Heaters Without Fan

Forced Convection Trench Heaters with Cross-Flow Fans

Forced Convection Trench Heaters with Four Pipe and Cross-Flow Fans
(Heater+Cooler)



VENTAS Isıtma, Soğutma, Enerji Sistemleri, İnşaat Sanayi ve Ticaret Anonim Şirketi; has been established in 2011 for production, consulting, project preparation and equipment supply in heating, cooling, air-conditioning and energy efficiency areas. VENTAS, which is established on top of twenty years of know-how and experience of its founders in the aforementioned sectors, is serving at its İstanbul Catalca production centres.

The product portfolio of HVAC market's new brand VENTAS includes hygienic air handling units, comfort air handling units, high-efficiency heat-recovery ventilation units, fan coil units, exhaust fans with cabinet, supply fans with cabinet, duct type fans, roof type fans, fire smoke removal fans, trench heaters, roof top package air conditioning systems (water cooled, air cooled, gas-fired, heat recovery etc.) units.

ISO 9001, CE, TSEK, EAC and EN 1886 certificates and benefiting all advantages of modern high technology, in VENTAS production centres, high quality and durable products are manufactured by a dynamic and experienced expert team with a meticulous and neat workmanship, and a solution oriented approach.

VENTAS brand's main principles are to serve its customers as a high quality solution partner and to provide excellent service with a dynamic structure both in pre-sales and after-sales.

Having reached a fast and continuous growth track since it has been established, VENTAS has managed to become a well-known company in heating, cooling, air-conditioning and energy efficiency sectors throughout the country. Moreover, the Turkish brand VENTAS has penetrated its excellent and high quality products into international markets in a very short time frame, and offered a complete product supply chain to these markets through its wide dealer and service structure.

Paying the utmost attention in its products to energy efficiency, endurance, reliability, sustainable technology and competitive price policy, VENTAS offers to be the corporate solution partner of all investors and mechanical construction companies in Turkey and all over the world, and shares its dynamic vision, renewed and developed continuously, with all its customers.



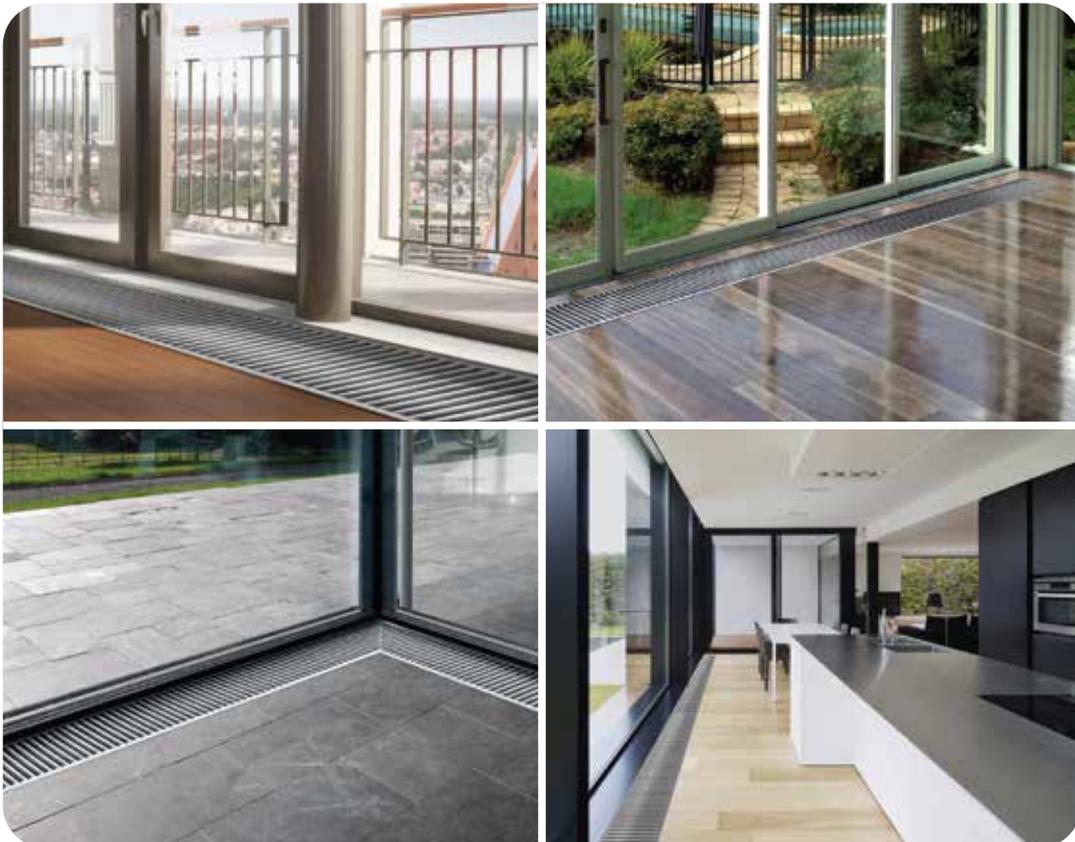
General Specifications

Floor-to-ceiling windows in modern architecture are commonly preferred due to their elegance and high level of natural light they provide to the inside of the buildings. Despite the fact that window and window frame technology develops day by day, since it is a weak insulator in its nature, it creates the need to stop the loss of heat inside the buildings. Providing an ideal solution to this problem, trench heaters expand the comfort zone in the building by heating the front side of the window they are placed on.

Application areas of trench heaters include; office buildings, villas and residences, stores, and all kinds of commercial buildings that have long and large windows.

VENTAS trench heaters without fan and trench heaters with tangential fans are offered;

- In two different types, trench heater without fan and trench heater with cross flow fans,
- With heating only or heating-cooling 4 pipe models,
- With 900-6000 mm trench heater length options,
- With 85 mm, 106 mm and 188 mm trench heater height alternatives,
- With 2 pipe models with 212, 262, 362, 462 mm trench heater width alternatives,
- With 4 pipe models with 323 mm trench heater width,
- With 150-18,000 Watt heating capacity range,
- With 1400-7000 Watt cooling capacity range in 4 pipe models with tangential fans.
- With different vent colour and material options,
- With utilization ability in optimum level with its application oriented control accessories,
- With low sound level, easy assembly and service, and long lasting advantages.



Trench Heaters

Natural Convection Trench Heater Without Fan

VENTAS natural convection trench heaters without fan are placed in front of indoor cold-sensitive windows and/or doors, utilized as main or supplementary heating system, thus provide comfort by balancing the ambient temperature.

Trench heaters without fan make use of natural air circulation. Cold air subsiding indoors, especially in front side of windows, passes through the heating coil in the trench heater, gets warmer and balances the ambient temperature by rising up with natural circulation. By this means the trench heater both heats the indoors and prevents any loss of heat by creating a heating curtain in front of cold-sensitive surfaces.

The most important feature of trench heaters without fan is that since they provide the heating function through natural circulation, they create a top level ambient comfort both temperature and noise-wise by providing a complete silence.

VENTAS natural convection trench heaters without fan are offered with 150-4,000 Watts heating capacity range, and 900-6,000 mm trench heater height range.



Forced Convection Trench Heaters with Cross Flow



VENTAS forced convection trench heaters with cross flow provide effective solutions as a main heating system as well as being utilized as supplementary heating systems.

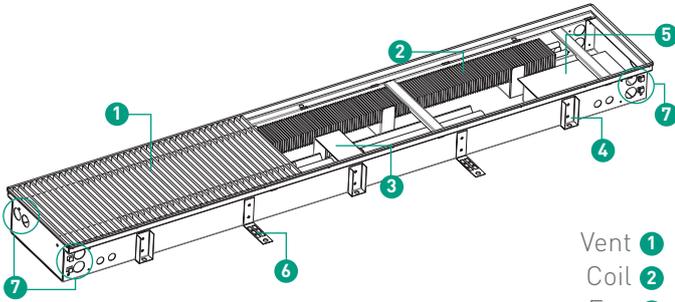
In settings that require high heating capacities, models with cross flow fans are preferred over models without fan. Cooling and subsiding air both on window surfaces and in the setting passes powerfully through the coil with the aid of a fan, and the ambient heating is provided by blowing heated air.

Thanks to the high-efficiency, low-speed fans used in trench heaters, operating in low sound levels is provided.

VENTAS forced convection trench heater with cross flow fans are offered with 600-18,000 Watts heating capacity range and 900-6,000 mm trench heater height range.

VENTAS forced convection trench heater with cross flow fans, with 4 pipe heating-cooling alternatives, can offer alternative solutions in buildings with newly-created applications.

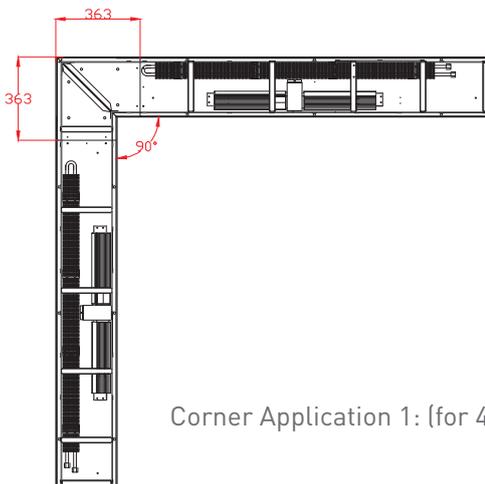
Product Details



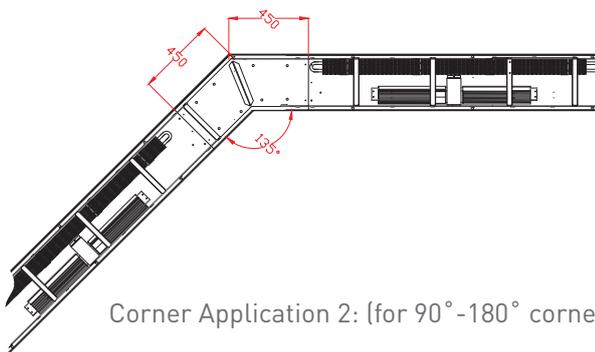
- Vent ①
- Coil ②
- Fan ③
- Height Adjusting Equipment ④
- Electrical Box ⑤
- Floor Assembly Connection ⑥
- Water Connection Point Options ⑦

Corner Applications

It is possible to assemble the trench heater in a most suitable and flexible way in accordance with the setting's allocation and designing requirements. VENTAS trench heaters provide thermal comfort with applications and accessories that adapt to all corners and window/wall curves without making any concessions of the aesthetic appearance.



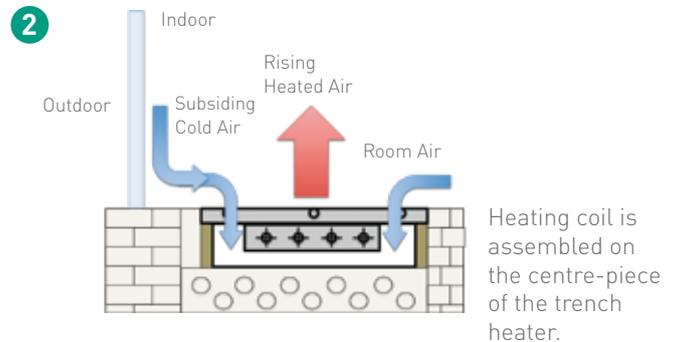
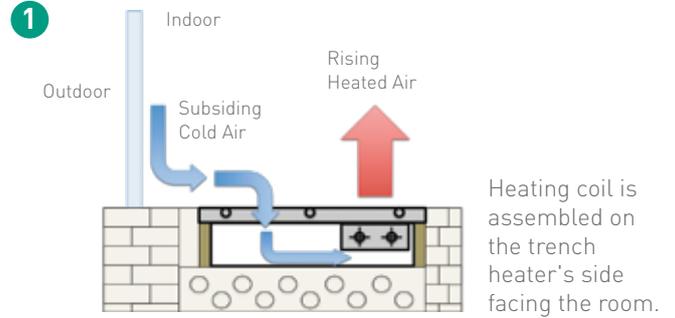
Corner Application 1: (for 45°-90° corners)



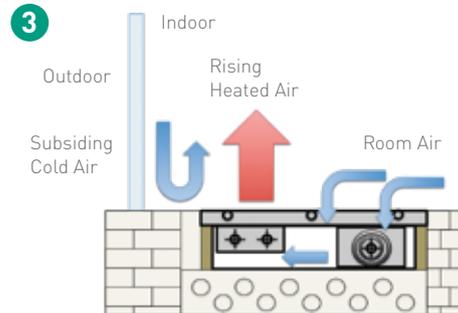
Corner Application 2: (for 90°-180° corners)

Application Methods

Natural Convection Installation

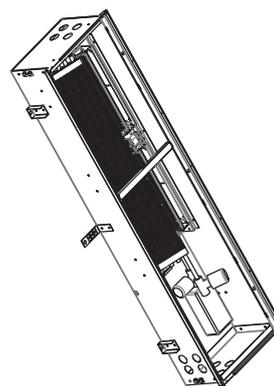


Forced Convection Installation



Heating coil is assembled on the outdoor side, and fan is assembled on the indoor side of the trench heater. Thus a heat curtain is created on the surface separating the indoor and the outdoor.

Trench Heater with 4 Pipes



With the heating coil with four pipes, a capacity contribution towards heating and cooling interior surroundings is provided while a heat curtain on the surface separating the indoor and the outdoor is created.

Trench Heaters

Natural Convection Trench Heaters Without Fan VTHNS and VTHNH Capacity Tables

MODEL	Length (mm)			900	1200	1500	1800	2100	2400	2700	3000	3300	3600	3900	4200	4500	4800	5100	5400	5700	6000	
VTHNS 2	Width (mm)	212 mm	Height (mm)	85 mm	245	392	553	746	927	1105	1282	1458	1633	1809	1984	2159	2334	2510	2685	2860	3035	3210
VTHNS 4		262 mm		85 mm	268	428	619	828	1028	1224	1420	1617	1809	2003	2197	2392	2586	2780	2974	3168	3362	3556
VTHNS 6		362 mm		85 mm	411	675	949	1219	1487	1755	2022	2289	2557	2824	3091	3359	3626	3893	4160	4427	4695	4962

MODEL	Length (mm)			900	1200	1500	1800	2100	2400	2700	3000	3300	3600	3900	4200	4500	4800	5100	5400	5700	6000	
VTHNH 2	Width (mm)	212 mm	Height (mm)	106 mm	268	428	619	828	1028	1224	1420	1617	1809	2003	2197	2392	2586	2780	2974	3168	3362	3556
VTHNH 4		262 mm		106 mm	299	478	714	946	1172	1395	1617	1839	2060	2282	2503	2724	2946	3167	3388	3609	3831	4052
VTHNH 6		362 mm		106 mm	446	739	1037	1331	1624	1917	2209	2501	2793	3086	3378	3670	3962	4254	4546	4839	5131	5423

Forced Convection Trench Heaters with Cross Flow Fans VTHVS and VTHVH Capacity Tables

MODEL	Length (mm)			900	1200	1500	1800	2100	2400	2700	3000	3300	3600	3900	4200	4500	4800	5100	5400	5700	6000	
VTHVS 2	Width (mm)	262 mm	Height (mm)	85 mm	1487	2005	2361	2631	4487	4816	5102	5356	5580	5789	9448	9764	10055	10334	10593	10837	11065	11289
VTHVS 4		362 mm		85 mm	2883	3447	3799	4042	7281	7609	7880	8108	8302	8470	14945	15261	15548	15808	16047	16266	16468	16655
VTHVS 6		462 mm		85 mm	3309	3832	4136	4336	7986	8270	8497	8684	8837	8970	16292	16564	16806	17024	17221	17400	17563	17707

MODEL	Length (mm)			900	1200	1500	1800	2100	2400	2700	3000	3300	3600	3900	4200	4500	4800	5100	5400	5700	6000	
VTHVH 2	Width (mm)	262 mm	Height (mm)	106 mm	1505	2029	2390	2665	4542	4875	5165	5424	5653	5864	9563	9884	10178	10462	10727	10975	11207	11427
VTHVH 4		362 mm		106 mm	2922	3497	3857	4105	7388	7724	8001	8234	8434	8606	15167	15490	15783	16050	16295	16519	16727	16918
VTHVH 6		462 mm		106 mm	3358	3892	4204	4409	8114	8405	8639	8830	8990	9125	16554	16833	17083	17307	17510	17694	17861	18015

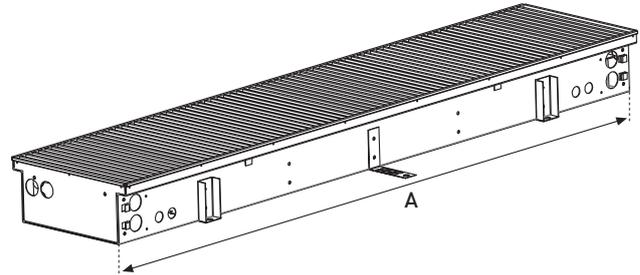
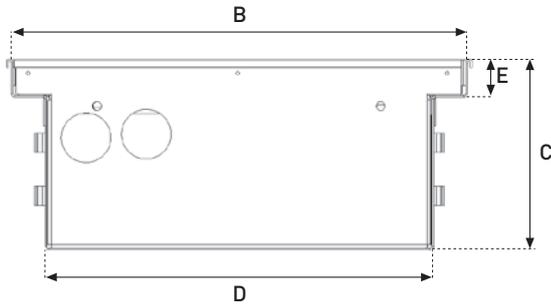
Notes:

- Trench heater height in VTHNS and VTHVS models is 85 mm.
- Trench heater height in VTHNH and VTHVH models is 106 mm.
- Capacities are given for 20°C room temperature and 80/60°C water regime.
- Heating value is given in Watts.
- Our trench heaters can be produced with a standard of 24 V fan and optionally with a 220 V fan.
- Our trench heaters can be provided with an optional motor-operated valve that provides proportional control, and a thermostat package.

Trench Heater Capacity Table

VTHNS Natural Convection Trench Heater Without Fan (85 mm Height)		Room Temperature				VTHNH Natural Convection Trench Heater Without Fan (106 mm Height)		Room Temperature				VTHVS - VTHVH Natural Convection Trench Heater Without Fan		Room Temperature			
		20°C	21°C	22°C	24°C			20°C	21°C	22°C	24°C			20°C	21°C	22°C	24°C
In/Out Water Temperature °C	90/70°C	1,29	1,27	1,23	1,17	In/Out Water Temperature °C	90/70°C	1,24	1,21	1,18	1,14	In/Out Water Temperature °C	90/70°C	1,19	1,18	1,16	1,12
	85/65°C	1,14	1,11	1,08	1,03		85/65°C	1,12	1,09	1,07	1,02		85/65°C	1,1	1,08	1,06	1,03
	80/60°C	1	0,97	0,94	0,88		80/60°C	1	0,97	0,94	0,88		80/60°C	1	0,98	0,96	0,93
	70/50°C	0,72	0,69	0,67	0,62		70/50°C	0,71	0,69	0,66	0,61		70/50°C	0,81	0,79	0,77	0,73
	60/40°C	0,47	0,45	0,43	0,39		60/40°C	0,47	0,45	0,43	0,38		60/40°C	0,61	0,59	0,57	0,54
	50/40°C	0,36	0,34	0,32	0,27		50/40°C	0,36	0,34	0,32	0,29		50/40°C	0,51	0,49	0,47	0,44

Trench Heater Dimensions



DIMENSIONS (mm)										
MODEL	A Length	B - Upper Width			C Height	D - Lower Width			E Upper Thickness	Water Connection Diameter
		VTHNS2	VTHNS4	VTHNS6		VTHNS2	VTHNS4	VTHNS6		
VTHNS / 85	900	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	1200	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	1500	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	1800	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	2100	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	2400	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	2700	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	3000	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	3300	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	3600	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	3900	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	4200	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	4500	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	4800	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	5100	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	5400	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	5700	212	262	362	85	172	222	322	13,4	1/2"
VTHNS / 85	6000	212	262	362	85	172	222	322	13,4	1/2"

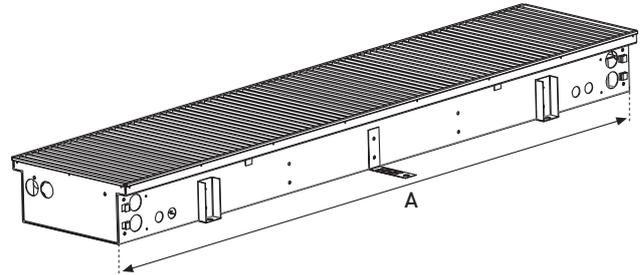
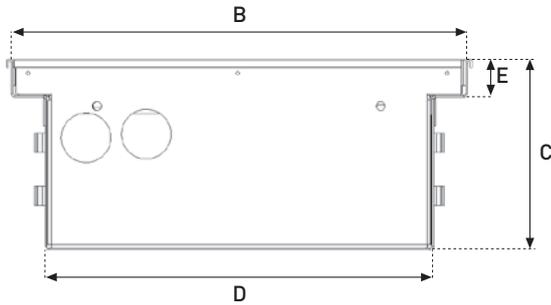
* Models Without Fan

MODEL	A Length	B - Upper Width			C Height	D - Lower Width			E Upper Thickness	Water Connection Diameter
		VTHVS2	VTHVS4	VTHVS6		VTHVS2	VTHVS4	VTHVS6		
VTHVS / 85	900	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	1200	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	1500	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	1800	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	2100	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	2400	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	2700	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	3000	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	3300	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	3600	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	3900	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	4200	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	4500	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	4800	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	5100	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	5400	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	5700	262	362	462	85	222	322	422	13,4	1/2"
VTHVS / 85	6000	262	362	462	85	222	322	422	13,4	1/2"

* Models With Cross Flow Fans

Trench Heaters

Trench Heater Dimensions



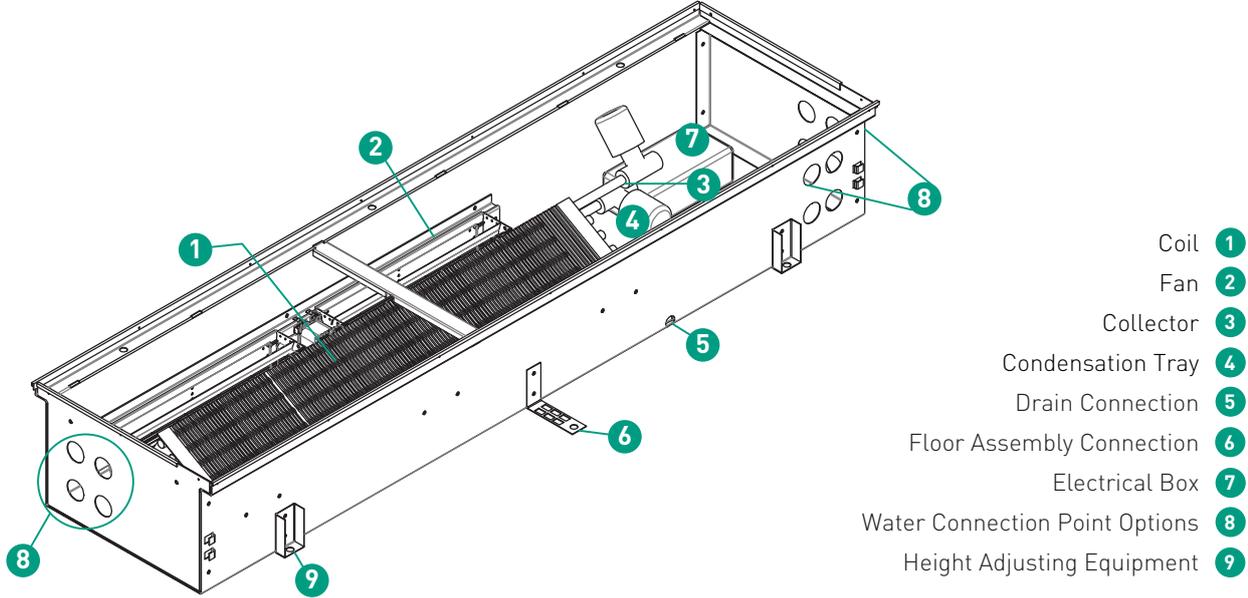
DIMENSIONS (mm)										
MODEL	A Length	B - Upper Width			C Height	D - Lower Width			E Upper Thickness	Water Connection Diameter
		VTHN2	VTHN4	VTHN6		VTHN2	VTHN4	VTHN6		
VTHNH / 106	900	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	1200	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	1500	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	1800	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	2100	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	2400	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	2700	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	3000	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	3300	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	3600	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	3900	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	4200	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	4500	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	4800	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	5100	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	5400	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	5700	212	262	362	106	172	222	322	21,4	1/2"
VTHNH / 106	6000	212	262	362	106	172	222	322	21,4	1/2"

*Models Without Fan

MODEL	A Length	B - Upper Width			C Height	D - Lower Width			E Upper Thickness	Water Connection Diameter
		VTHVH2	VTHVH4	VTHVH6		VTHVH2	VTHVH4	VTHVH6		
VTHVH / 106	900	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	1200	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	1500	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	1800	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	2100	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	2400	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	2700	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	3000	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	3300	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	3600	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	3900	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	4200	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	4500	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	4800	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	5100	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	5400	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	5700	262	362	462	106	222	322	422	21,4	1/2"
VTHVH / 106	6000	262	362	462	106	222	322	422	21,4	1/2"

*Models With Cross Flow Fans

Forced Convection Trench Heaters with Four Pipes and Cross Flow Fan and Heater and Cooler Features

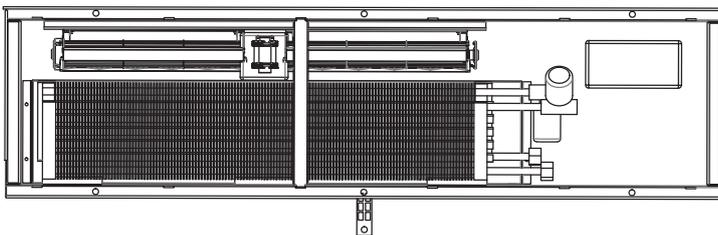
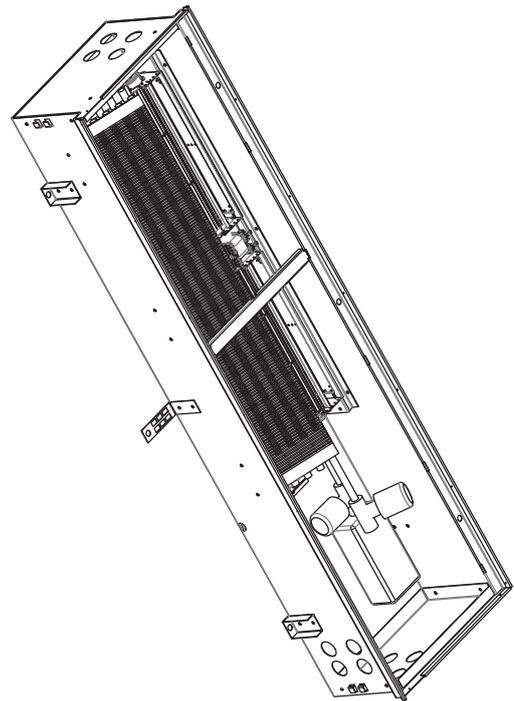


- Coil 1
- Fan 2
- Collector 3
- Condensation Tray 4
- Drain Connection 5
- Floor Assembly Connection 6
- Electrical Box 7
- Water Connection Point Options 8
- Height Adjusting Equipment 9

Notes:

- 4 different model sizes are offered.
- Trench heater height in VTHFC models is 188 mm.
- Capacities for heating are given for 20°C room temperature and 80/60 °C water regime.
- Capacities for cooling are given for 20°C room temperature and 7/12 °C water regime.
- Heating and cooling values are given in Watts.
- Our trench heaters operate with a standard of 24 V cross flow fan.
- Our trench heaters can be provided with an optional motor-operated valve that provides proportional control, and a thermostat package.

MODEL	Length (mm)		1199	2250	3500	5800		
	Active Length (mm)		858	1716	2574	4290		
VTHFC Heating	Width (mm)	323 mm	Height (mm)	188 mm	3230	6460	9690	16150
VTHFC Cooling	Width (mm)	323 mm	Height (mm)	188 mm	1400	2800	4200	7000



Trench Heaters

Trench Heater Accessories



On-Off Room Thermostat



On-Off Servo Motor



Proportional Room Thermostat Control



Thermostatic Valve 180 Degrees



Thermostatic Valve 90 Degrees



On-Off or Proportional Control Board



On-Off or Proportional Control Indoor Thermostat



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