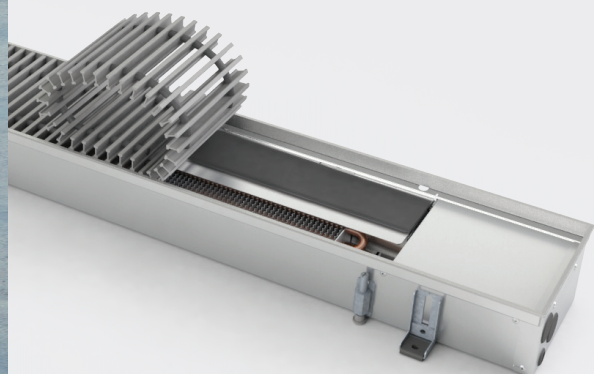
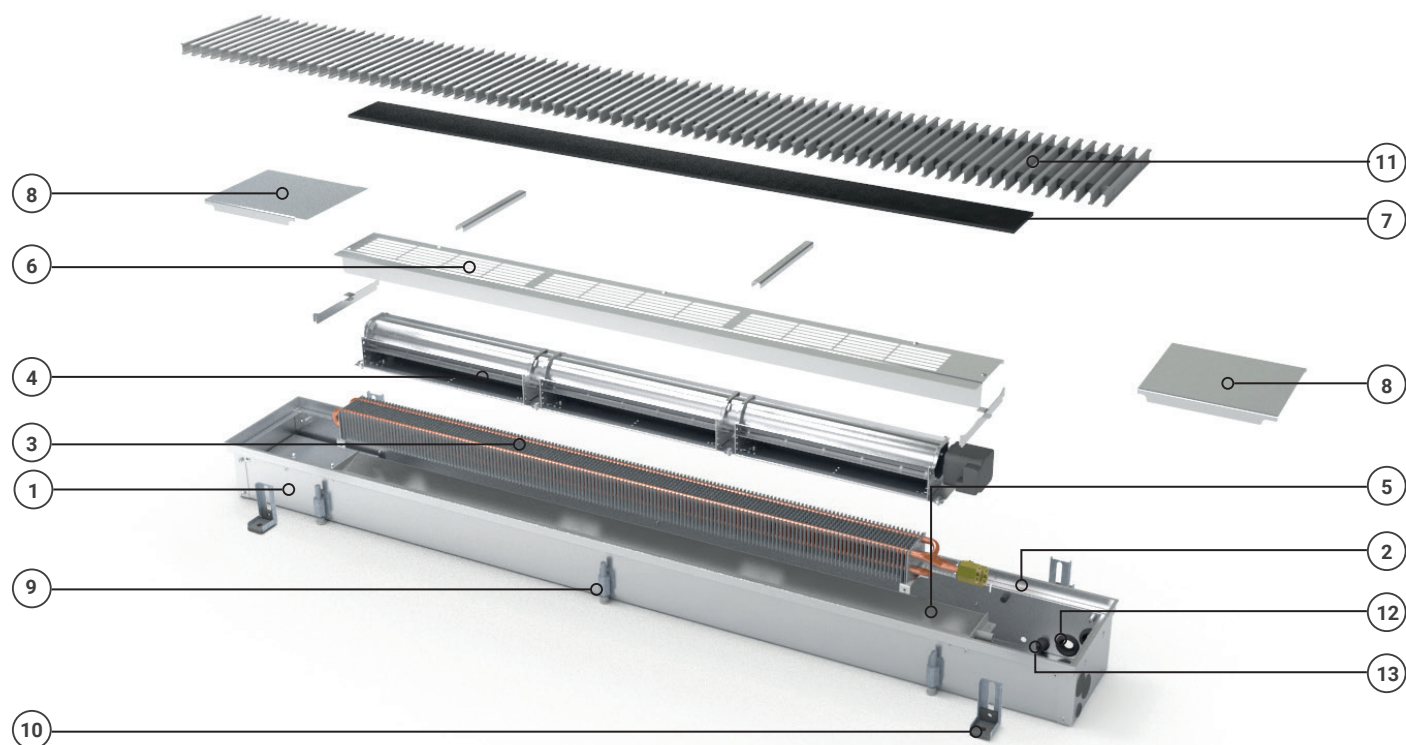


# EPECON

## TRENCH CONVECTORS WITH FORCED CONVECTION FOR HEATING AND COOLING FH45

- Wet cooling and dry cooling ready
- Tested according to EN 16430 in independent accredited laboratory
- Stainless steel casings
- Low noise levels
- Fans with most economical EC-type motors
- Safe voltage of fans
- Exceptional rigidity of casings
- Perfect compatibility with heat pumps
- Highly efficient, rapid (have very small water content) and economic copper - aluminium heat exchangers
- Possibility to change level of casing at anytime during exploitation
- All fixing brackets and bolts have soundproofing elements
- Possibility to control up to 30 units with 1 thermostat
- Wide range of wooden and aluminium grilles
- Supply air filters are in standard sets





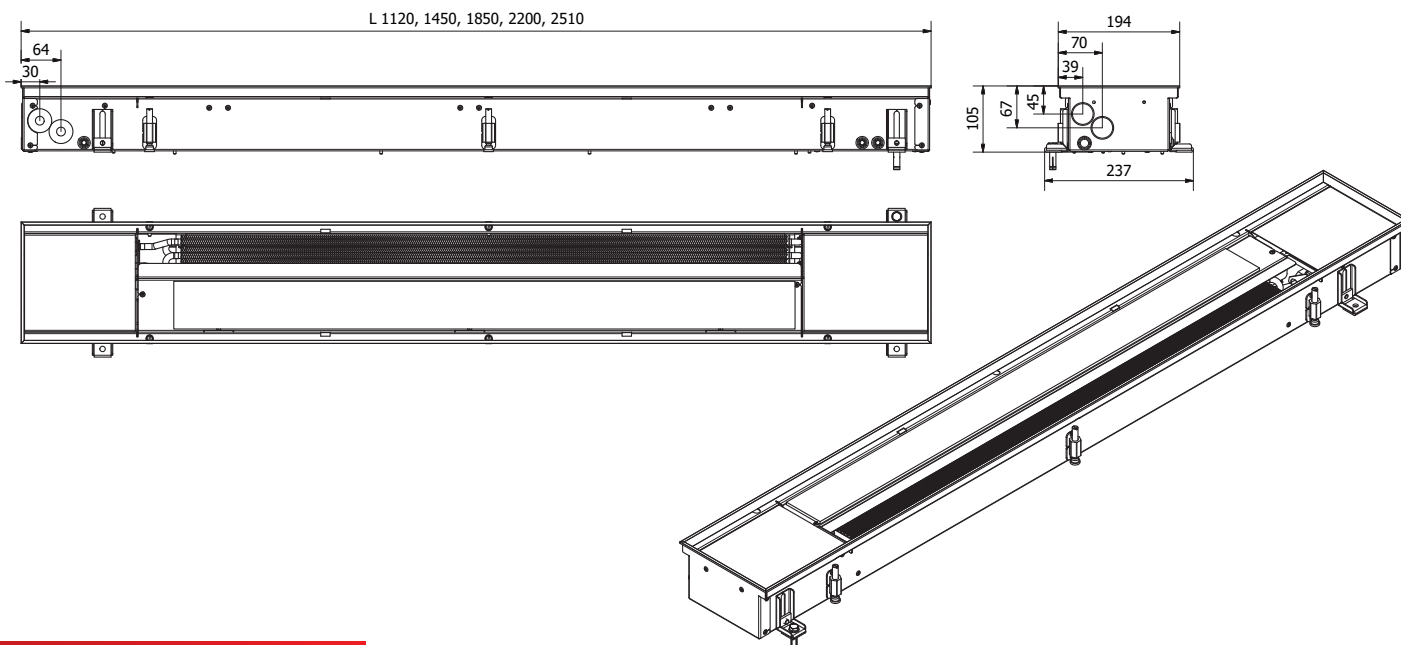
- |  |   |
|--|---|
| ① Stainless steel casing   | ⑧ Cover for the hydraulic connections   |
| ② Anodized aluminium frame, with the colour matching the colour of the grilles | ⑨ Feet for supporting vertical load and adjusting height of the casing. With sound proofing elements. |
| ③ Copper - aluminium heat exchanger  | ⑩ Brackets for fixing the casing to the floor with sound-proofing gaskets                             |
| ④ Tangential fan with an EC motor  | ⑪ Grilles   |
| ⑤ Drain pan  | ⑫ Sealing element for pipes   |
| ⑥ Fan protection / air deflector / filter holder                               | ⑬ Sealing element for cables  |
| ⑦ Inlet air filter   |   |

## SCOPE OF APPLICATION AND ADVANTAGES

- Scope of application: for indoor heating and cooling
- Fast achievement and precise maintaining of the desired temperature
- Excellent compatibility with heat pumps
- Quiet-running, powerful fans with efficient EC type motors
- Extremely rigid stainless steel body casing with up to 10 pcs. of supports for supporting of vertical load
- Possibility to adjusting height of the device at any moment during exploitation (when mounting into raised floor)
- All supporting elements are equipped with sound insulation – the noise entering the room below is reduced
- Good tightness of casings prevents the concrete from entering the casing during installation. Sealing elements for pipes and cables are also supplied
- All fasteners required for mounting are included in the standard kit

## STANDART SET

Stainless steel casing	1 pc	Air filter	1 pc
Anodized aluminium frame	1 kit	Fasteners	1 kit
Copper-aluminium heat exchanger	1 pc	Installation Instructions	1 pc
Fan with protection and airflow deflectors	1-2 pc	Corrugated cardboard box	1 pc
Drain pan	1 pc		



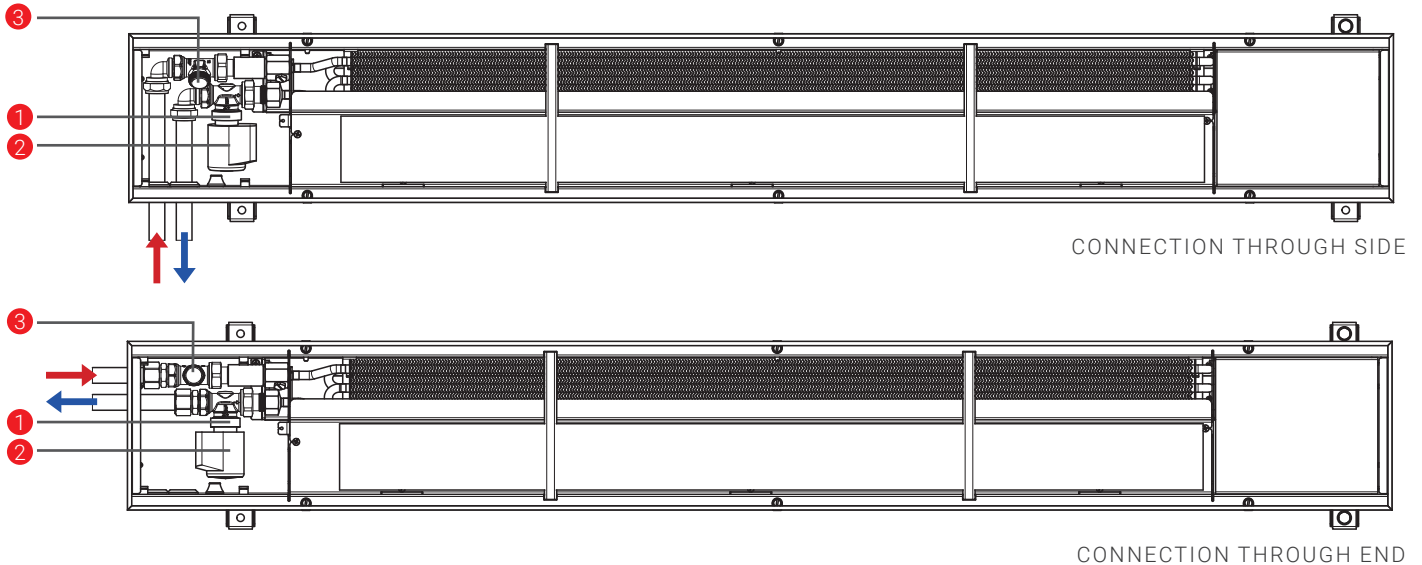
## TECHNICAL DATA

Length	<b>1120-2500 mm</b>	Thread of the hydraulic connections	<b>G 1/2"</b>
Width	<b>190 mm</b>	Type of thread for the hydraulic connections	<b>inner</b>
Height	<b>105 mm</b>	Position of the hydraulic connections	<b>1 side</b>
Type of fan motors	<b>EC</b>	Test pressure	<b>30 bar</b>
Fan operating voltage	<b>24V DC</b>	Operating pressure	<b>25 bar</b>
Fan speed control voltage	<b>0 - 10V</b>	Operating temperature	<b>5 - 120°C</b>

Fan speed	Heat output, W			Sensible cooling output, W			Sound levels		Air flow, m3/h
	75/65/20°C	55/45/20°C	35/30/20°C	7/12/27°C	7/12/25°C	14/17/25°C	Sound pressure level, dB(A)	Sound power level, dB(A)	
<b>FH45 112-19-10,5</b>									
5	1 702	1 020	425	430	387	253	39	47	0 - 139
4	1 419	851	354	338	304	199	32	42	
3	1 123	673	280	248	223	146	25	34	
2	807	484	202	160	144	94	22	31	
1	459	275	115	76	68	45	20	29	
<b>FH45 145-19-10,5</b>									
5	2 615	1 568	653	661	595	388	39	48	0 - 180
4	2 181	1 308	544	519	467	305	33	42	
3	1 726	1 035	431	381	343	224	26	36	
2	1 241	744	310	246	221	145	23	32	
1	706	423	176	117	105	69	21	30	
<b>FH45 185-19-10,5</b>									
5	3 682	2 208	919	930	837	547	39	48	0 - 278
4	3 070	1 841	766	731	658	430	33	43	
3	2 430	1 457	606	536	483	315	27	35	
2	1 747	1 047	436	346	312	204	23	32	
1	994	596	248	164	148	96	21	30	
<b>FH45 220-19-10,5</b>									
5	4 578	2 745	1 143	1 157	1 041	680	40	50	0 - 319
4	3 818	2 290	953	909	818	535	34	44	
3	3 021	1 812	754	667	600	392	28	38	
2	2 172	1 303	542	431	388	253	24	34	
1	1 236	741	308	204	184	120	22	32	
<b>FH45 250-19-10,5</b>									
5	5 475	3 283	1 366	1 383	1 245	813	40	50	0 - 360
4	4 566	2 738	1 140	1 088	979	640	35	44	
3	3 613	2 167	902	798	718	469	30	39	
2	2 598	1 558	648	515	464	303	25	34	
1	1 478	886	369	244	220	143	23	33	

Model	Length, mm	No. of fans, pc	Max el. power, A	Max el. power, V	Length of heat exchanger, mm	Weight, kg	Water volume FH45, ltr
							Heating
FH45 112-19-10,5	1 100	1	0,63	15	630	9,9	0,28
FH45 145-19-10,5	1 450	1	0,75	18	968	12,1	0,41
FH45 185-19-10,5	1 850	2	1,25	30	1 363	16,6	0,57
FH45 220-19-10,5	2 200	2	1,38	33	1 695	18,8	0,71
FH45 250-19-10,5	2 500	2	1,5	36	2 027	21,9	0,85

## EXAMPLE OF CONNECTIONS



## ACCESSORIES FOR FCH MODELS

### 1 ELECTRIC CONTROL BOX (ECB) (CAN BE INSTALLED INSIDE CONVECTOR'S CASING)



Ensures easy and fast connection between convector and room thermostat

Additional place for power supply is not required

24V DC power supply included

Relays for actuators of thermostatic valves included

El. connectors for fast connection of the cables included

### 2 THERMOSTATIC VALVE (FOR AN ENERGY CARRIER INTLET)



Controls flow with an electro-thermic actuator or thermostatic head

Possibility to set maximum flow

Total flow closure

### 3 THERMOSTATIC VALVE ACTUATOR



Opening and closing of the thermostatic valves

Thermoelectric

Opened/Closed indicator

Voltage 24V DC

### 4 SHUT-OFF VALVE (FOR ENERGY CARRIER OUTLET)



For opening / closing of the flow

For disconnecting the heat exchanger from the heating / cooling system without draining

### ROOM THERMOSTAT



For setting and control of the room temperature

Automatic or manual switch of the heating/cooling mode

Day/night and weekly temperature programmes

Accuracy of temperature control  $\pm 0.5^{\circ}\text{C}$

Power supply of 24V DC

Stepless fan rotating speed control, 0 – 10V

Valve actuator control, 0 – 10V or On/OFF

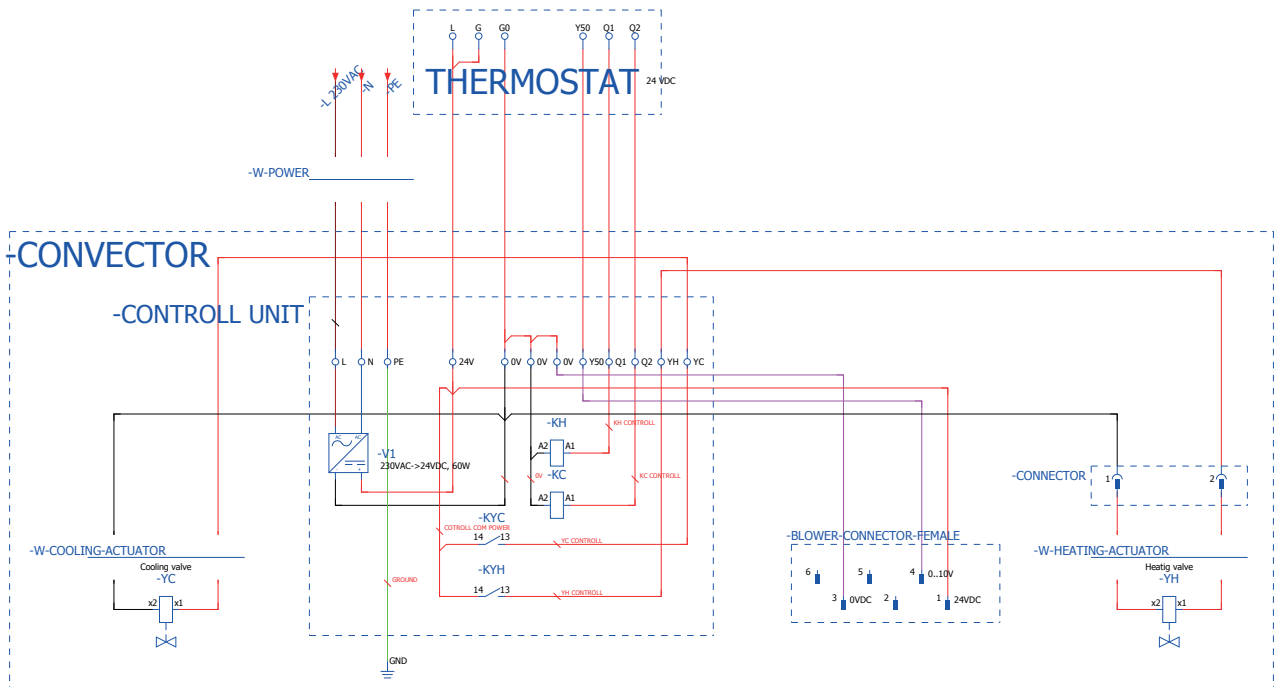
Backlit LED display

## INSTALLATION FEATURES

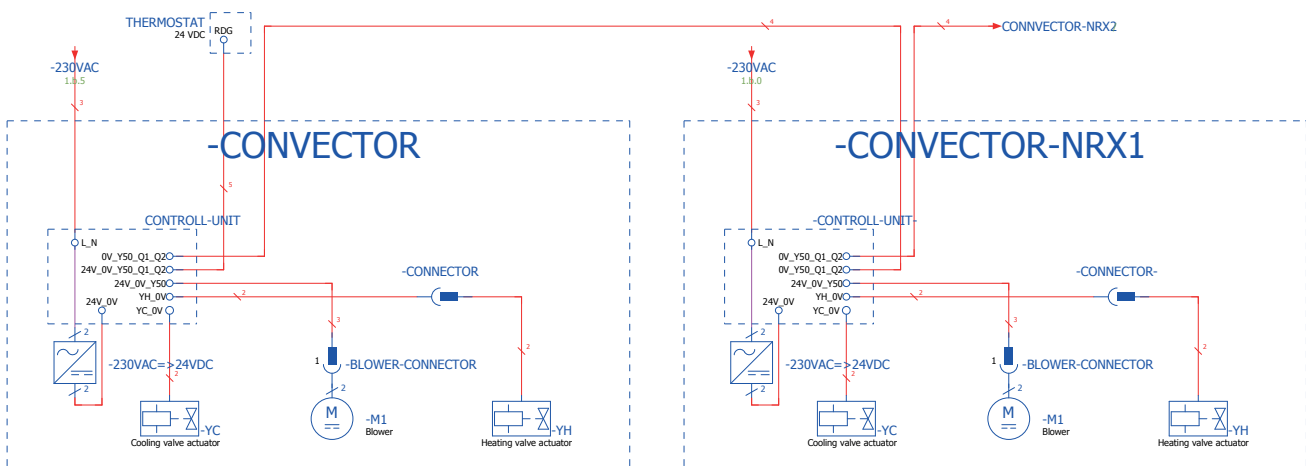
- The side with the heat exchanger is always mounted closer to the window (wall)
- Provided possibility to connect pipes through the side or end of the convector
- Thermostatic valves have to be attached to the heat exchanger to connections closer to the fans
- Energy carrier supply pipes have to be connected to the heat exchanger through detachable shut-off valves
- Outgoing pipes have to be connected to the heat exchanger through thermostatic valves
- All fasteners required for mounting are included in the standard kit
- The possibility of adjusting the height of the device after mounting (when mounting into raised floor) is provided

## DEVICE ELECTRICAL CIRCUIT

ELECTRICAL CONNECTION DIAGRAM FOR FH45



ELECTRICAL CONNECTION DIAGRAM FOR FEW FH45 TO SAME THERMOSTAT



- Convectors installed in the same room are controlled based on the Master - Slave principle
- A 220V power supply is connected to the master control unit
- Fans are controlled by 0 – 10V from the indoor thermostat, with a 24V power supply
- Valve actuators are controlled either with the 0 – 10V or the ON/OFF switch, depending on the type of actuators chosen

## ORDER CODE

Type	Length, cm	Width, cm	Height, cm	Example
FH45	112	19	10,5	FH45 112-19-10,5
FH45 + ECB	112	19	10,5	FH45 112-19-10,5 + ECB



# Värme i flera former

I Epecons breda sortiment hittar du även konvektorer och designradiatorer i olika storlekar och former.

Gemensamt för dem alla är att de har en väl fungerande konstruktion samt en formgivning som uppfyller de allra högsta krav som ställs vid ny,- och ombyggnation.



För att upprätthålla en ständig produktutveckling förbehåller Epecon sig rätten att ändra tekniska specifikationer utan föregående meddelande. Epecon reserverar sig för eventuella feltryck.

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# EPECON