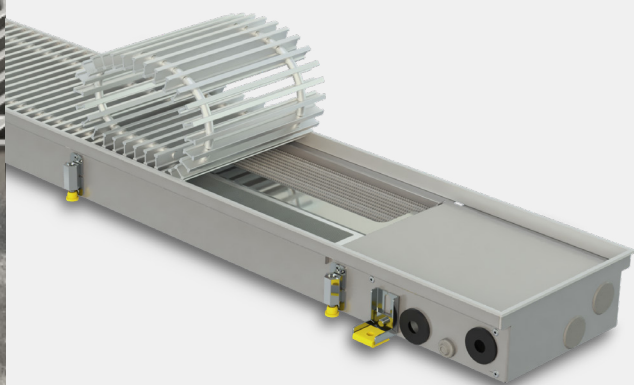


TRENCH HEATERS FH

 FOR HEATING

 FAN ASSISTED

- 36 models
- Stainless steel casings
- Remarkably low noise level
- Tested according to EN 16430 in independent accredited laboratory
- 10 year warranty for casings and heat exchangers
- Fans with most economical and quiet EC-type motors
- Excellent compatibility with heat pumps and condensate boilers
- Max operating pressure 25 bar
- Possibility to control up to 30 units with 1 thermostat
- Highly efficient and economic copper-aluminium heat exchangers
- Safe voltage of fans – 24V (DC)
- Supply air filters are in standard set
- Reversible reinforced profile grilles
- All fixing brackets and bolts have sound proofing elements
- Possibility to change level of casing at any time during exploitation (when installed in raised floors)



TRENCH HEATERS FH

Small but full of energy, FH trench heaters **with fans** will fill your room with pleasant warmth even in the coldest winters.

Quiet and extremely economical EC fans increase convection efficiency more than 4 times, almost without any sound.

Due to **extremely low inertia**, can quickly increase and precisely maintain the set room temperature, **providing the room with exactly as much heat as you require just when it is required.**

Create an effective warm air curtain for large windows, without allowing cold to penetrate the premises. The **heat is perfectly distributed** throughout the room.

Operates very well with **low-temperature heat sources**, such as heat pumps or condensing boilers.

Fully integrated into the floor, and therefore **do not impede free passage.**

Perfect for any interior, as the only visible element is the grill, the material and colour of which matches floor covering.

May be walked on and can easily **withstand the weight of a number of adults.**

Supplied with a **stainless steel casings** and **copper-aluminium heat exchangers**, to ensure they remain extremely reliable over the long-term.



10-year warranty for the casings and heat exchangers

We are confident in the longevity of our housings and heat exchangers; therefore, we provide them with a 10-year guarantee.



Tested according to EN16430

The outputs of all products manufactured by Konveka have been tested by independent accredited laboratories according to the latest standards.

With us, 1 kW means 1 kW.



Fans with EC technology

All Konveka forced convection devices are equipped with fans that employ **EC technology**. This is far superior to AC technology, as the fans:

1. Are **7 times more economical**.
2. Brushless motors are more durable and are **maintenance-free**.
3. Speed is **adjustable stepless**, using only as much power as required.
4. Starting currents do not exceed the operating currents.
5. Minimum rotation speed is 10% (out of max.)



Work perfectly with low-temperature energy carriers

Due to their high efficiency, FH are very **suitable for** operating with low-temperature energy carriers, such as **heat pumps** and **condensing boilers**.



Sound insulation

All the supporting parts have sound-insulating elements, to prevent the spread of sound to the premises below.



Especially quiet operation

We have achieved exceptionally low noise levels using **extremely quiet EC fans** and by the **optimisation** of their **rotational speed** and **design** of the devices.



All body parts are made of stainless steel

Stainless steel provides **100% corrosion protection** for an indefinite time. It is also **54% stronger** and **45% harder** than carbon steel, so it can withstand loads during transportation, installation, and operation.



Reinforced casings

As a standard, the FH convector casings are equipped with:

1. **Stiffening elements** to maintain the pressure of the concrete – from 2 to 3 pcs, depending on the length of the casing.
2. **M10 support screws** to withstand the vertical load – from 4 to 12 pcs.
3. Mounting **brackets** for attaching the casing to the floor – 4 pcs.

These structural elements, together with the strong casing material, ensure their stable shape during installation, transportation and operation.



Maximum operating pressure – 25 bar

All the devices are **factory-tested** for leaks at a pressure of **30 bar**. The maximum maintained pressure (strength limit) is **110 bar**. Konveka devices easily withstand hydraulic tests, hydraulic shocks and can be installed in extremely tall buildings.

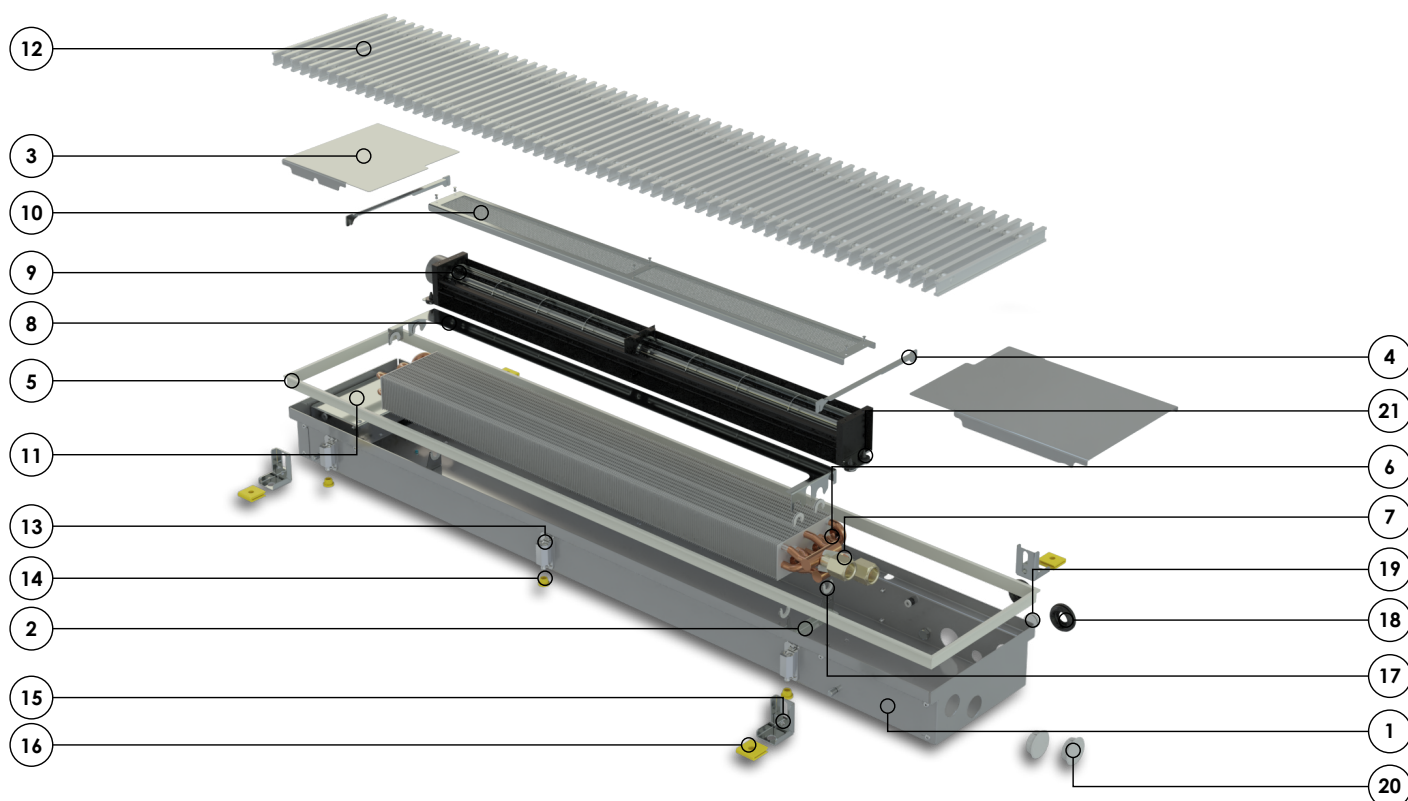


Safe operating voltage of fans

The operating voltage of all fans is 24V DC. This voltage is safe for humans.

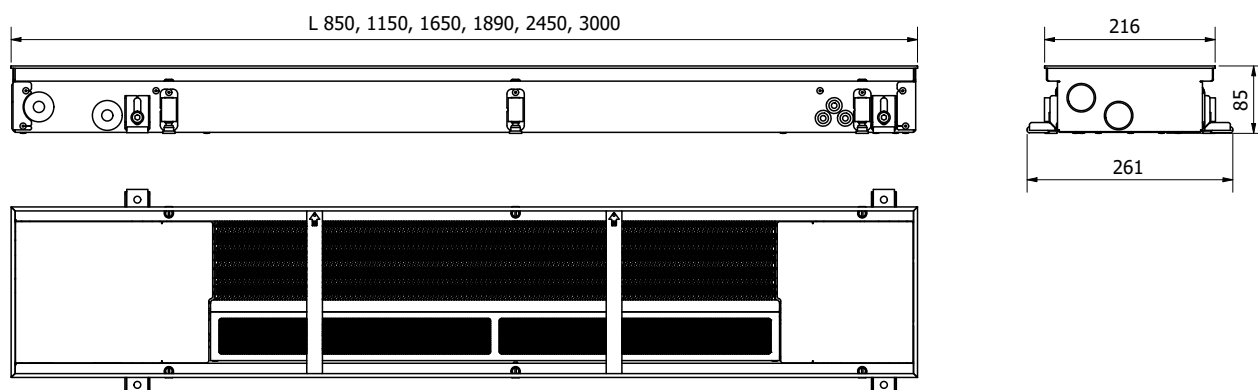
STANDARD SET

FH



- | | |
|---|--|
| ① Stainless steel casing | ⑭ Noise isolating elements for adjusting screws |
| ② Brackets for heat exchanger | ⑮ Casing fixing to the floor brackets |
| ③ Hydraulic connections cover | ⑯ Noise isolation elements for floor brackets |
| ④ Casing's stiffening elements | ⑰ Heat exchanger fixing - protecting elements |
| ⑤ Anodized aluminium frame; colour matches the colour of grille | ⑱ Pipe sealing and protection elements |
| ⑥ Copper - aluminium heat exchanger | ⑲ Cable sealing and protection elements |
| ⑦ Air vent | ⑳ Plugs for unused casing holes |
| ⑧ Air guiding element | ㉑ Vibration dampers for fan |
| ⑨ Fan with EC motor | All fasteners required for installation |
| ⑩ Air filter | Installation manual |
| ⑪ Control box (optional) | 5-layer, 2 parts cardboard box, additionally used for device protecting during installation and construction works |
| ⑫ Protective - decorative grille (optional) | |
| ⑬ Height adjustment and vertical load supporting bolts | |

FH4-H	6
6 models	
Lengths	85, 115, 165, 189, 245 and 300 cm
Width	21,6 cm
Height	8,5 cm
Average heat output	2009 W/m
FH4-M	9
6 models	
Lengths	91, 121, 175, 200, 250 and 300 cm
Width	17,3 cm
Height	8,5 cm
Average heat output	1637 W/m
FH4-L3	12
6 models	
Lengths	85, 115, 165, 190, 245 and 300 cm
Width	25,8 cm
Height	8,5 cm
Average heat output	1576 W/m
FH4-L2	15
6 models	
Lengths	85, 115, 165, 190, 245 and 300 cm
Width	20,8 cm
Height	8,5 cm
Average heat output	1353 W/m
FH3-H	18
6 models	
Lengths	91, 121, 175, 200, 250 and 300 cm
Width	16,3 cm
Height	7,5 cm
Average heat output	1032 W/m
FH3-L	21
6 models	
Lengths	85, 115, 165, 190, 245 and 300 cm
Width	19,8 cm
Height	7,5 cm
Average heat output	1009 W/m
ACCESORIES	24
ELECTRICAL CONNECTION DIAGRAMS	25
GRILLES	26
ABOUT KONVEKA	28



TECHNICAL DATA

Length	850-3000 mm	Thread of hydr. connections	G 1/2"
Width	216 mm	Thread type of hydr. connections	inner
Height = installation height	85 mm	Side of the hydr. connections	left
Type of fan motors	EC	Operating pressure	25 bar
Fan operating voltage	24V DC	Operating temperature	2 - 120°C
Fan speed control voltage	0 - 10V		

EN16430 certified outputs

Fan speed	Heat output, W			Sound pressure level, dB(A)	Max. air flow, m³/h	No. of fans, pcs.	Max el. current, A	Max power consumption, W	Water flow, l/h
	90/70/20°C Δt = 60°C	75/65/20°C Δt = 50°C	55/45/20°C Δt = 30°C						
FH4-H 85									
100%	1 372	1 148	698	35	162	1	0.16	3.8	101
80%	1 144	957	582	24	126		0.13	3.1	
60%	887	742	451	19	96		0.10	2.3	
40%	601	503	306	17	66		0.06	1.5	
20%	286	240	146	-	30		0.03	0.8	
FH4-H 115									
100%	2 375	1 988	1 208	36	276	1	0.25	6.0	175
80%	1 980	1 658	1 007	26	216		0.20	4.8	
60%	1 536	1 285	781	20	162		0.15	3.6	
40%	1 041	871	529	18	108		0.10	2.4	
20%	496	415	252	-	52		0.05	1.2	
FH4-H 165									
100%	4 095	3 428	2 083	37	474	1	0.38	9.1	301
80%	3 414	2 858	1 737	27	372		0.30	7.3	
60%	2 647	2 216	1 346	21	288		0.23	5.5	
40%	1 794	1 502	912	19	198		0.15	3.6	
20%	855	715	435	-	97		0.08	1.8	

Fan speed	Heat output, W			Sound pressure level, dB(A)	Max. air flow, m³/h	No. of fans, pcs.	Max el. current, A	Max power consumption, W	Water flow, l/h
	90/70/20°C Δt = 60°C	75/65/20°C Δt = 50°C	55/45/20°C Δt = 30°C						
FH4-H 189									
100%	4 958	4 150	2 522	38	552	2	0.50	12.0	365
80%	4 134	3 460	2 103	28	432		0.40	9.6	
60%	3 205	2 683	1 630	21	324		0.30	7.2	
40%	2 172	1 818	1 105	19	216		0.20	4.8	
20%	1 035	866	526	-	104		0.10	2.4	
FH4-H 245									
100%	6 678	5 590	3 397	40	750	2	0.63	15.1	491
80%	5 568	4 661	2 832	30	588		0.50	12.1	
60%	4 317	3 614	2 196	23	450		0.38	9.1	
40%	2 962	2 449	1 488	20	306		0.25	6.0	
20%	1 394	1 167	709	18	149		0.13	3.0	
FH4-H 300									
100%	8 417	7 046	4 281	41	948	2	0.76	18.2	619
80%	7 018	5 875	3 570	31	744		0.61	14.6	
60%	5 441	4 555	2 768	24	576		0.46	10.9	
40%	3 688	3 087	1 876	21	396		0.30	7.3	
20%	1 757	1 471	894	19	194		0.15	3.6	

Heat outputs at specific temperatures are available in Selection tables at www.konveka.com

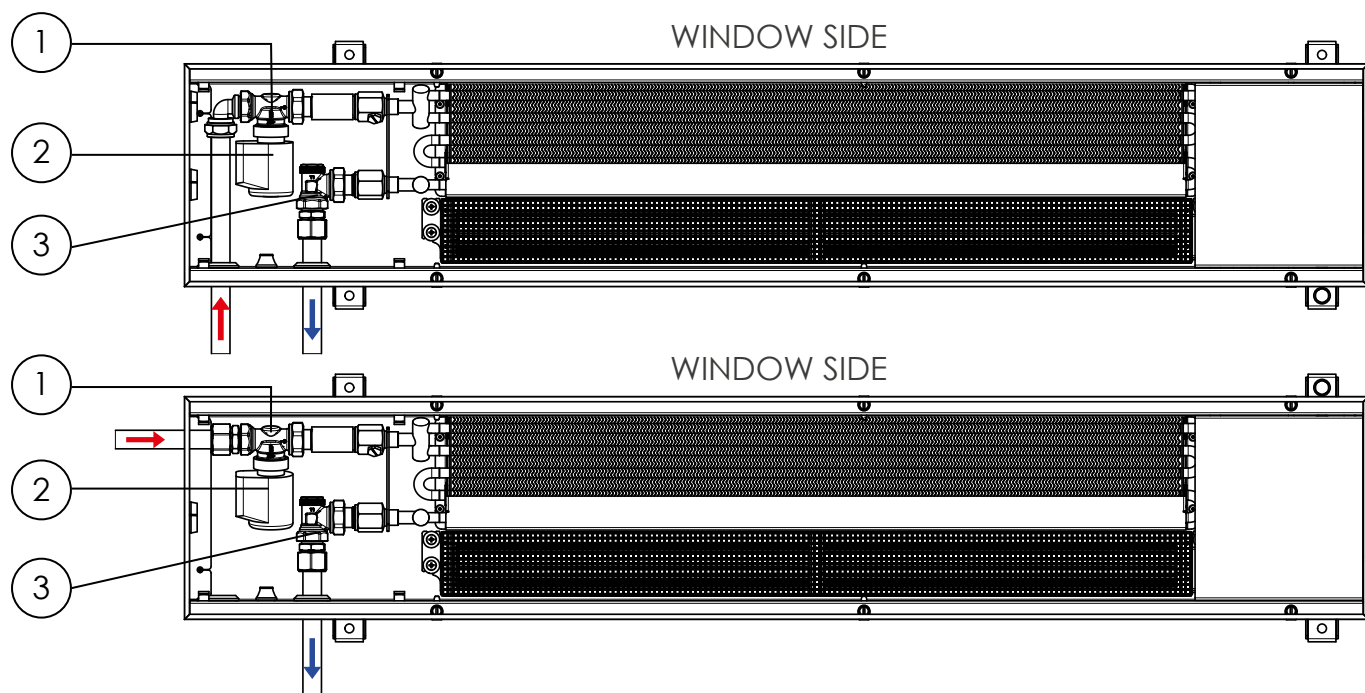
Pressure losses

Length, cm	MAX flow, l/h	MAX power, W	Formulas for pressure losses, Pa	MAX pressure losses, Pa
85	99	1 148	$0,41 \times (-0,00006 \times q^3 + 0,04893 \times q^2 - 0,69919 \times q - 8,14817)$	140
115	171	1 988	$0,71 \times (-0,00006 \times q^3 + 0,04893 \times q^2 - 0,69919 \times q - 8,14817)$	712
165	295	3 428	$1,22 \times (-0,00006 \times q^3 + 0,04893 \times q^2 - 0,69919 \times q - 8,14817)$	3 025
190	357	4 150	$1,48 \times (-0,00006 \times q^3 + 0,04893 \times q^2 - 0,69919 \times q - 8,14817)$	4 741
245	481	5 590	$2,00 \times (-0,00006 \times q^3 + 0,04893 \times q^2 - 0,69919 \times q - 8,14817)$	8 638
300	606	7 046	$2,52 \times (-0,00006 \times q^3 + 0,04893 \times q^2 - 0,69919 \times q - 8,14817)$	10 530

q – Flow of energy carrier (l/h)

EXAMPLE OF CONNECTIONS

FH4-H



① Thermostatic valve, straight

② Thermostatic valve actuator

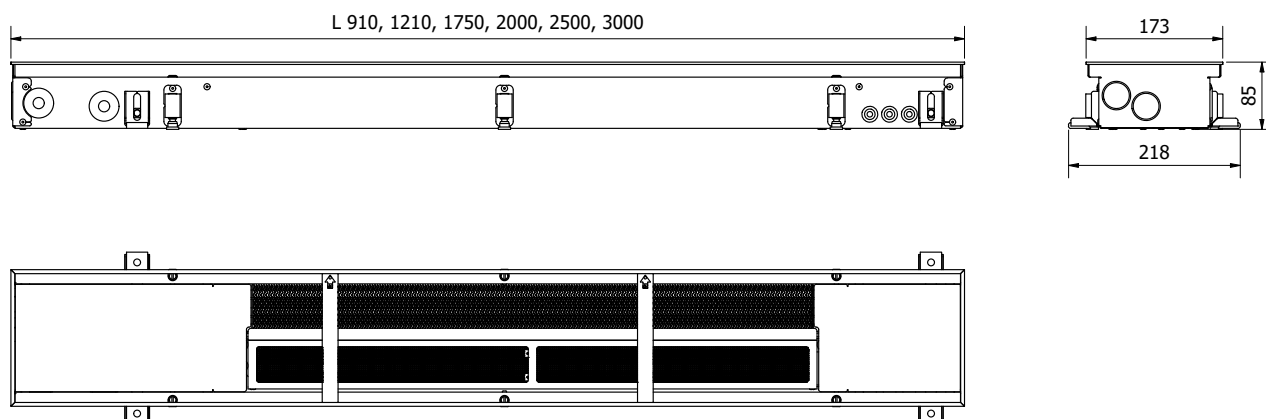
③ Angle lockshield valve

INSTALLATION FEATURES

- Side with heat exchanger is always mounted closer to the window (wall)
- Energy carrier supply pipes has to be connected to heat exchangers connectors which are further from the fans
- Energy carrier outlet pipes has to be connected to heat exchangers connectors which are closer to the fans
- Height of the device can be adjusted at any time of exploitation (when installed in raised floor)

ORDER CODE

Type	Length, cm	Example
FH4-H	115	FH4-H 115



TECHNICAL DATA

Length	910-3000 mm	Thread of hydr. connections	G 1/2"
Width	173 mm	Thread type of hydr. connections	inner
Height = installation height	85 mm	Side of the hydr. connections	left
Type of fan motors	EC	Operating pressure	25 bar
Fan operating voltage	24V DC	Operating temperature	2 - 120°C
Fan speed control voltage	0 - 10V		

EN16430 certified outputs

Fan speed	Heat output, W			Sound pressure level, dB(A)	Max. air flow, m³/h	No. of fans, pcs.	Max el. current, A	Max power consumption, W	Water flow, l/h
	90/70/20°C Δt = 60°C	75/65/20°C Δt = 50°C	55/45/20°C Δt = 30°C						
FH4-M 91									
100%	1 172	979	592	35	162	1	0.16	3.8	86
80%	976	815	493	24	126		0.13	3.1	
60%	771	644	389	19	96		0.10	2.3	
40%	553	462	279	17	66		0.06	1.5	
20%	314	262	158	-	30		0.03	0.8	
FH4-M 121									
100%	2 029	1 695	1 025	36	276	1	0.25	6.0	149
80%	1 690	1 412	854	26	216		0.20	4.8	
60%	1 336	1 116	674	20	162		0.15	3.6	
40%	958	801	484	18	108		0.10	2.4	
20%	543	454	274	-	52		0.05	1.2	
FH4-M 175									
100%	3 498	2 922	1 766	37	474	1	0.38	9.1	257
80%	2 914	2 434	1 471	27	372		0.30	7.3	
60%	2 302	1 924	1 163	21	288		0.23	5.5	
40%	1 652	1 380	834	19	198		0.15	3.6	
20%	937	783	473	-	97		0.08	1.8	

Fan speed	Heat output, W			Sound pressure level, dB(A)	Max. air flow, m³/h	No. of fans, pcs.	Max el. current, A	Max power consumption, W	Water flow, l/h
	90/70/20°C Δt = 60°C	75/65/20°C Δt = 50°C	55/45/20°C Δt = 30°C						
FH4-M 200									
100%	4 235	3 538	2 139	38	552	2	0.50	12.0	311
80%	3 528	2 948	1 782	28	432		0.40	9.6	
60%	2 788	2 329	1 408	21	324		0.30	7.2	
40%	2 000	1 671	1 010	19	216		0.20	4.8	
20%	1 134	948	573	-	104		0.10	2.4	
FH4-M 250									
100%	5 704	4 765	2 880	40	750	2	0.63	15.1	419
80%	4 751	3 970	2 400	30	588		0.50	12.1	
60%	3 755	3 137	1 896	23	450		0.38	9.1	
40%	2 694	2 251	1 361	20	306		0.25	6.0	
20%	1 528	1 276	772	18	149		0.13	3.0	
FH4-M 300									
100%	7 189	6 007	3 631	41	948	2	0.76	18.2	528
80%	5 989	5 004	3 025	31	744		0.61	14.6	
60%	4 733	3 954	2 390	24	576		0.46	10.9	
40%	3 396	2 838	1 715	21	396		0.30	7.3	
20%	1 926	1 609	973	19	194		0.15	3.6	

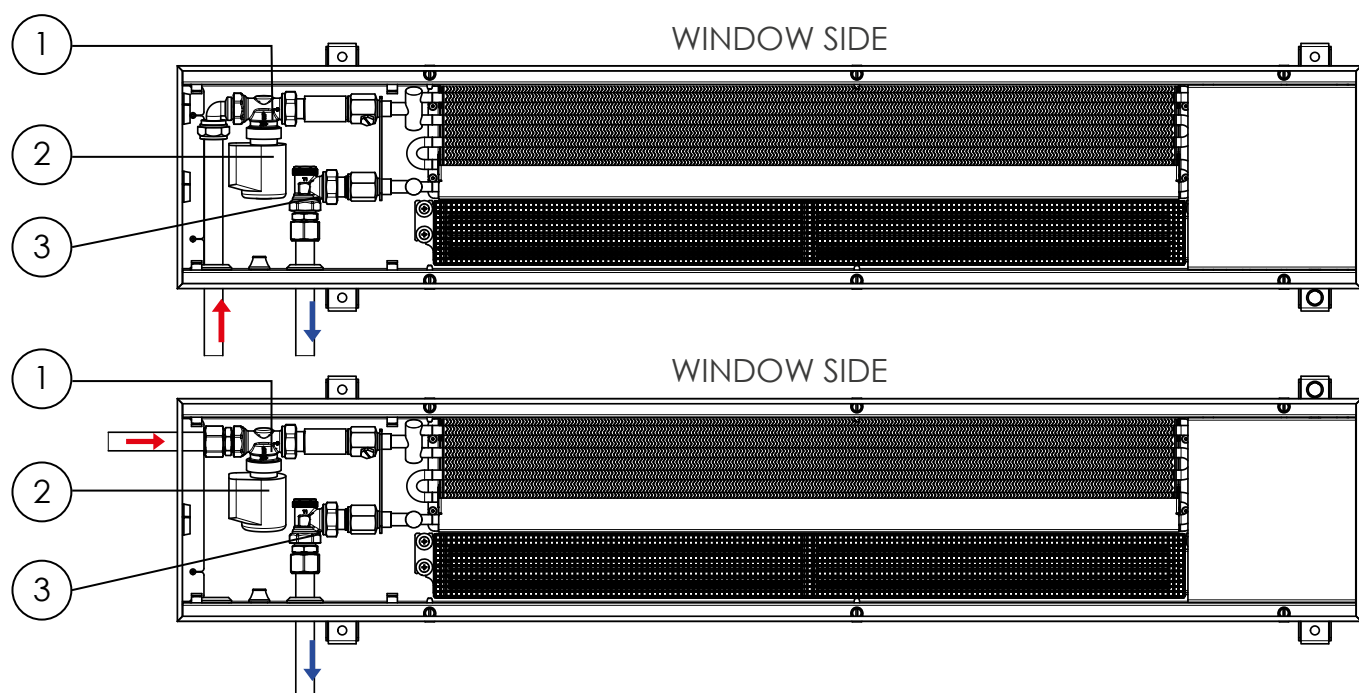
Heat outputs at specific temperatures are available in Selection tables at www.konveka.com

Pressure losses

Length, cm	MAX flow, l/h	MAX power, W	Formulas for pressure losses, Pa	MAX pressure losses, Pa
91	84	979	$0,41 \times (0,1033 \times q^2 - 6,0365 \times q + 625,15)$	348
121	146	1 695	$0,71 \times (0,1033 \times q^2 - 6,0365 \times q + 625,15)$	1 377
175	251	2 922	$1,22 \times (0,1033 \times q^2 - 6,0365 \times q + 625,15)$	6 892
200	304	3 538	$1,48 \times (0,1033 \times q^2 - 6,0365 \times q + 625,15)$	12 375
250	410	4 765	$2,00 \times (0,1033 \times q^2 - 6,0365 \times q + 625,15)$	30 929
300	517	6 007	$2,52 \times (0,1033 \times q^2 - 6,0365 \times q + 625,15)$	63 064

q – Flow of energy carrier (l/h)

EXAMPLE OF CONNECTIONS



① Thermostatic valve, straight

② Thermostatic valve actuator

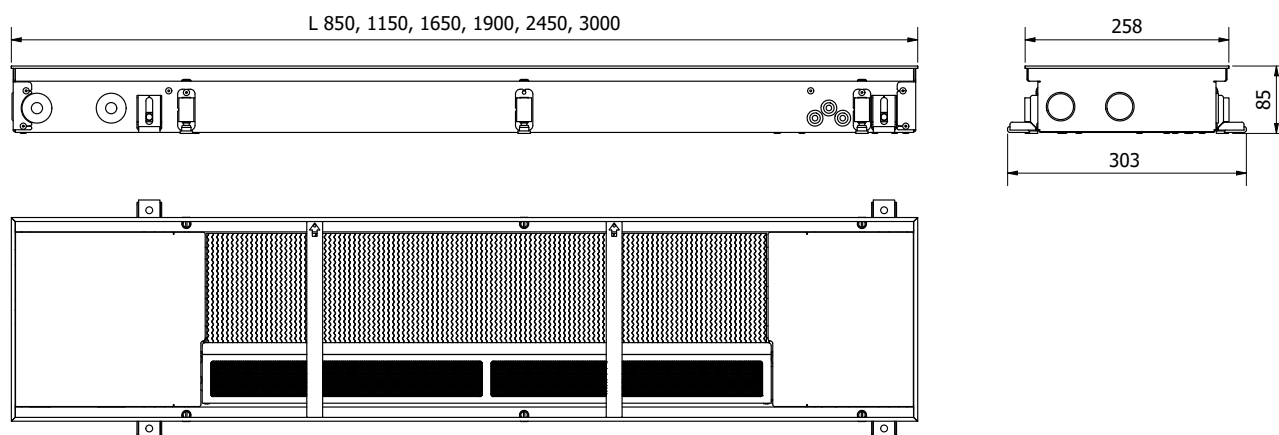
③ Angle lockshield valve

INSTALLATION FEATURES

- Side with heat exchanger is always mounted closer to the window (wall)
- Energy carrier supply pipes has to be connected to heat exchangers connectors which are further from the fans
- Energy carrier outlet pipes has to be connected to heat exchangers connectors which are closer to the fans
- Height of the device can be adjusted at any time of exploitation (when installed in raised floor)

ORDER CODE

Type	Length, cm	Example
FH4-M	121	FH4-M 121



TECHNICAL DATA

Length	850-3000 mm	Thread of hydr. connections	G 1/2"
Width	258 mm	Thread type of hydr. connections	inner
Height = installation height	85 mm	Side of the hydr. connections	left
Type of fan motors	EC	Operating pressure	25 bar
Fan operating voltage	24V DC	Operating temperature	2 - 120°C
Fan speed control voltage	0 - 10V		

EN16430 certified outputs

Fan speed	Heat output, W			Sound pressure level, dB(A)	Max. air flow, m³/h	No. of fans, pcs.	Max el. current, A	Max power consumption, W	Water flow, l/h
	90/70/20°C Δt = 60°C	75/65/20°C Δt = 50°C	55/45/20°C Δt = 30°C						
FH4-L3 85									
100%	1 095	901	521	35	162	1	0.16	3.8	79
80%	987	812	470	24	126		0.13	3.1	
60%	820	674	390	19	96		0.10	2.3	
40%	592	487	282	17	66		0.06	1.5	
20%	305	251	145	-	30		0.03	0.8	
FH4-L3 115									
100%	1 896	1 560	902	36	276	1	0.25	6.0	137
80%	1 709	1 406	813	26	216		0.20	4.8	
60%	1 419	1 167	675	20	162		0.15	3.6	
40%	1 025	843	488	18	108		0.10	2.4	
20%	528	434	251	-	52		0.05	1.2	
FH4-L3 165									
100%	3 269	2 689	1 556	37	474	1	0.38	9.1	236
80%	2 947	2 424	1 402	27	372		0.30	7.3	
60%	2 447	2 012	1 164	21	288		0.23	5.5	
40%	1 768	1 454	841	19	198		0.15	3.6	
20%	910	749	433	-	97		0.08	1.8	

Fan speed	Heat output, W			Sound pressure level, dB(A)	Max. air flow, m³/h	No. of fans, pcs.	Max el. current, A	Max power consumption, W	Water flow, l/h
	90/70/20°C Δt = 60°C	75/65/20°C Δt = 50°C	55/45/20°C Δt = 30°C						
FH4-L3 190									
100%	3 958	3 255	1 883	38	552	2	0.50	12.0	286
80%	3 568	2 935	1 698	28	432		0.40	9.6	
60%	2 962	2 437	1 410	21	324		0.30	7.2	
40%	2 140	1 761	1 019	19	216		0.20	4.8	
20%	1 102	907	525	-	104		0.10	2.4	
FH4-L3 245									
100%	5 330	4 385	2 537	40	750	2	0.63	15.1	385
80%	4 805	3 953	2 287	30	588		0.50	12.1	
60%	3 990	3 282	1 899	23	450		0.38	9.1	
40%	2 883	2 371	1 372	20	306		0.25	6.0	
20%	1 485	1 221	707	18	149		0.13	3.0	
FH4-L3 300									
100%	6 719	5 527	3 197	41	948	2	0.76	18.2	486
80%	6 057	4 983	2 883	31	744		0.61	14.6	
60%	5 029	4 137	2 393	24	576		0.46	10.9	
40%	3 634	2 989	1 729	21	396		0.30	7.3	
20%	1 871	1 539	891	19	194		0.15	3.6	

Heat outputs at specific temperatures are available in Selection tables at www.konveka.com

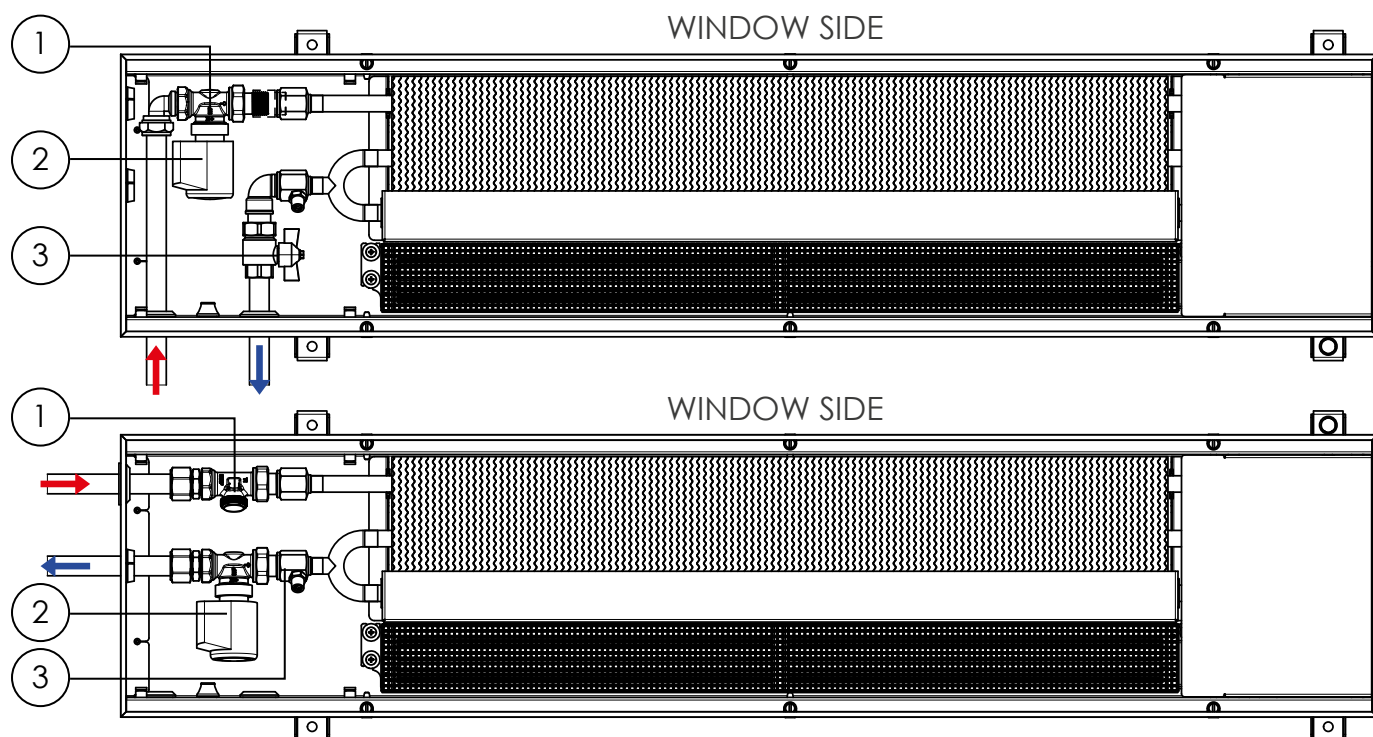
Pressure losses

Length, cm	MAX flow, l/h	MAX power, W	Formulas for pressure losses, Pa	MAX pressure losses, Pa
85	77	901	$0,41 \times (0,0017 \times q^2 + 0,3853 \times q + 1,0716)$	17
115	134	1 560	$0,71 \times (0,0017 \times q^2 + 0,3853 \times q + 1,0716)$	59
165	231	2 689	$1,22 \times (0,0017 \times q^2 + 0,3853 \times q + 1,0716)$	222
190	280	3 255	$1,48 \times (0,0017 \times q^2 + 0,3853 \times q + 1,0716)$	359
245	377	4 385	$2,00 \times (0,0017 \times q^2 + 0,3853 \times q + 1,0716)$	774
300	475	5 527	$2,52 \times (0,0017 \times q^2 + 0,3853 \times q + 1,0716)$	1 429

q – Flow of energy carrier (l/h)

EXAMPLE OF CONNECTIONS

FH4-L3



1 Thermostatic valve, straight

2 Thermostatic valve actuator

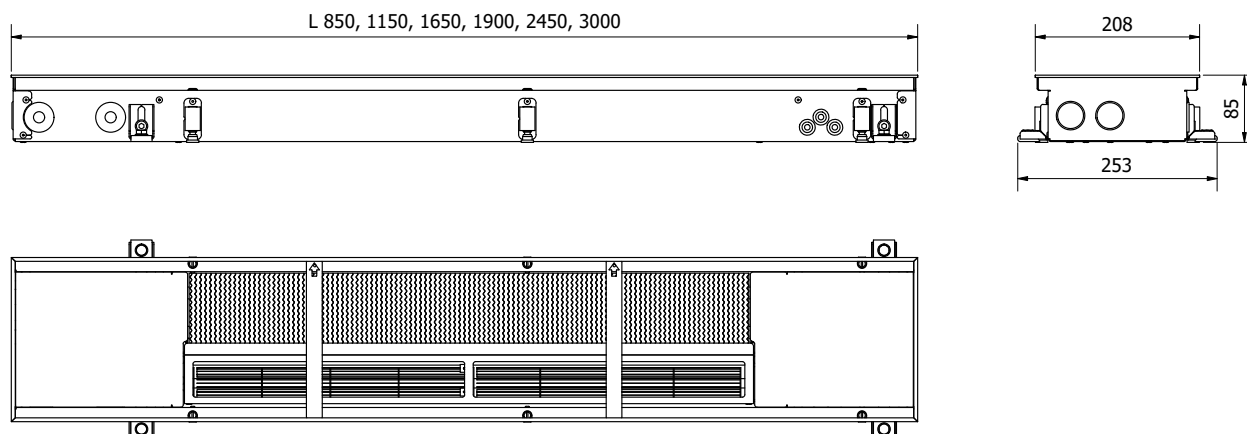
3 Straight lockshield valve

INSTALLATION FEATURES

- Side with heat exchanger is always mounted closer to the window (wall)
- Energy carrier supply pipes has to be connected to heat exchangers connectors which are further from the fans
- Energy carrier outlet pipes has to be connected to heat exchangers connectors which are closer to the fans
- Height of the device can be adjusted at any time of exploitation (when installed in raised floor)

ORDER CODE

Type	Length, cm	Example
FH4-L3	115	FH4-L3 115



TECHNICAL DATA

Length	850-3000 mm	Thread of hydr. connections	G 1/2"
Width	208 mm	Thread type of hydr. connections	inner
Height = installation height	85 mm	Side of the hydr. connections	left
Type of fan motors	EC	Operating pressure	25 bar
Fan operating voltage	24V DC	Operating temperature	2 - 120°C
Fan speed control voltage	0 - 10V		

EN16430 certified outputs

Fan speed	Heat output, W			Sound pressure level, dB(A)	Max. air flow, m³/h	No. of fans, pcs.	Max el. current, A	Max power consumption, W	Water flow, l/h
	90/70/20°C Δt = 60°C	75/65/20°C Δt = 50°C	55/45/20°C Δt = 30°C						
FH4-L2 85									
100%	933	773	457	35	162	1	0.16	3.8	68
80%	847	702	415	24	126		0.13	3.1	
60%	721	598	353	19	96		0.10	2.3	
40%	557	462	273	17	66		0.06	1.5	
20%	355	294	174	-	30		0.03	0.8	
FH4-L2 115									
100%	1 616	1 339	791	36	276	1	0.25	6.0	118
80%	1 466	1 215	718	26	216		0.20	4.8	
60%	1 249	1 035	612	20	162		0.15	3.6	
40%	965	800	473	18	108		0.10	2.4	
20%	614	509	301	-	52		0.05	1.2	
FH4-L2 165									
100%	2 785	2 308	1 364	37	474	1	0.38	9.1	203
80%	2 527	2 095	1 238	27	372		0.30	7.3	
60%	2 154	1 785	1 055	21	288		0.23	5.5	
40%	1 664	1 379	815	19	198		0.15	3.6	
20%	1 059	878	518	-	97		0.08	1.8	

Fan speed	Heat output, W			Sound pressure level, dB(A)	Max. air flow, m³/h	No. of fans, pcs.	Max el. current, A	Max power consumption, W	Water flow, l/h
	90/70/20°C Δt = 60°C	75/65/20°C Δt = 50°C	55/45/20°C Δt = 30°C						
FH4-L2 190									
100%	3 372	2 795	1 651	38	552	2	0.50	12.0	246
80%	3 060	2 536	1 498	28	432		0.40	9.6	
60%	2 608	2 161	1 277	21	324		0.30	7.2	
40%	2 015	1 670	987	19	216		0.20	4.8	
20%	1 282	1 062	628	-	104		0.10	2.4	
FH4-L2 245									
100%	4 542	3 764	2 224	40	750	2	0.63	15.1	331
80%	4 121	3 416	2 018	30	588		0.50	12.1	
60%	3 512	2 911	1 720	23	450		0.38	9.1	
40%	2 714	2 249	1 329	20	306		0.25	6.0	
20%	1 727	1 431	845	18	149		0.13	3.0	
FH4-L2 300									
100%	5 725	4 745	2 803	41	948	2	0.76	18.2	417
80%	5 195	4 306	2 544	31	744		0.61	14.6	
60%	4 427	3 669	2 168	24	576		0.46	10.9	
40%	3 421	2 835	1 675	21	396		0.30	7.3	
20%	2 176	1 804	1 066	19	194		0.15	3.6	

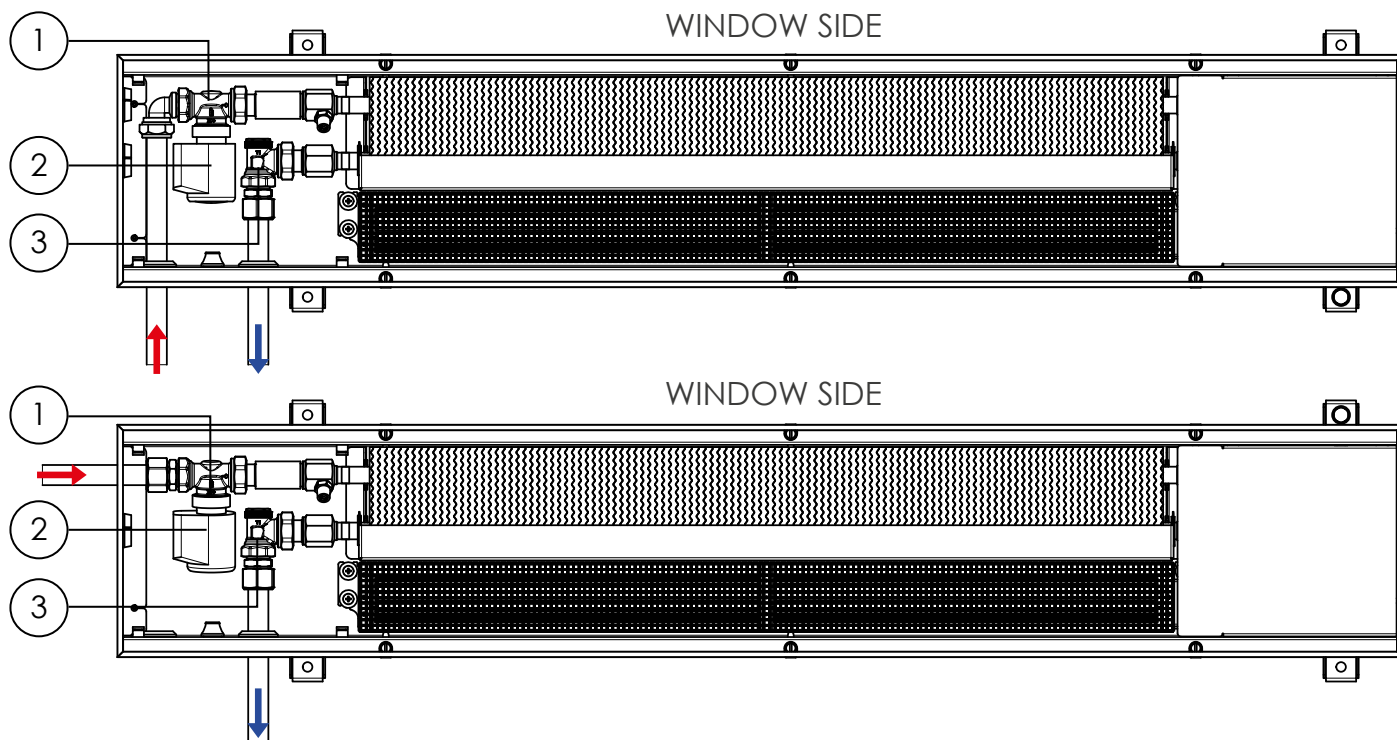
Heat outputs at specific temperatures are available in Selection tables at www.konveka.com

Pressure losses

Length, cm	MAX flow, l/h	MAX power, W	Formulas for pressure losses, Pa	MAX pressure losses, Pa
85	99	773	$0,41 \times (0,0067 \times q^2 + 0,0917 \times q - 2,1454)$	14
115	171	1 339	$0,71 \times (0,0067 \times q^2 + 0,0917 \times q - 2,1454)$	69
165	295	2 308	$1,22 \times (0,0067 \times q^2 + 0,0917 \times q - 2,1454)$	343
190	357	2 795	$1,48 \times (0,0067 \times q^2 + 0,0917 \times q - 2,1454)$	603
245	481	3 764	$2,00 \times (0,0067 \times q^2 + 0,0917 \times q - 2,1454)$	1 456
300	606	4 745	$2,52 \times (0,0067 \times q^2 + 0,0917 \times q - 2,1454)$	2 894

q – Flow of energy carrier (l/h)

EXAMPLE OF CONNECTIONS



FH4-L2

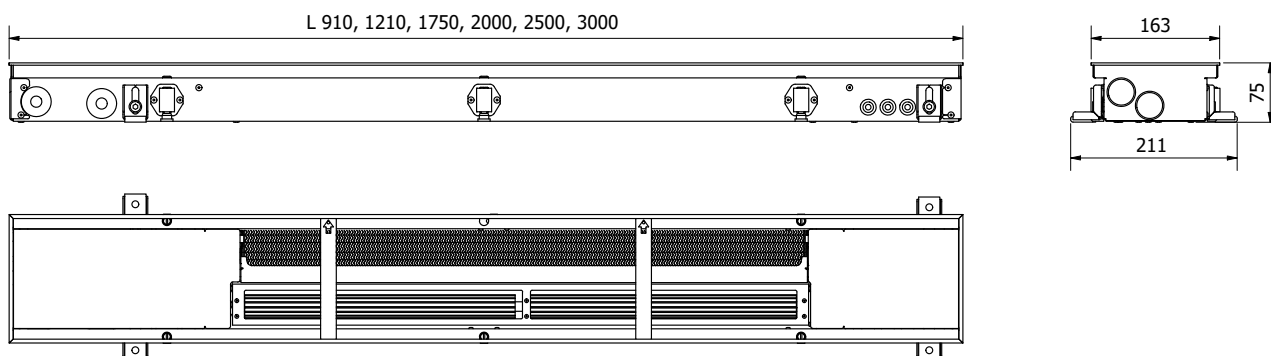
- ① Thermostatic valve, straight ② Thermostatic valve actuator ③ Angle lockshield valve

INSTALLATION FEATURES

- Side with heat exchanger is always mounted closer to the window (wall)
- Energy carrier supply pipes has to be connected to heat exchangers connectors which are further from the fans
- Energy carrier outlet pipes has to be connected to heat exchangers connectors which are closer to the fans
- Height of the device can be adjusted at any time of exploitation (when installed in raised floor)

ORDER CODE

Type	Length, cm	Example
FH4-L2	115	FH4-L2 115



TECHNICAL DATA

Length	910-3000 mm	Thread of hydr. connections	G 1/2"
Width	163 mm	Thread type of hydr. connections	inner
Height = installation height	75 mm	Side of the hydr. connections	left
Type of fan motors	EC	Operating pressure	25 bar
Fan operating voltage	24V DC	Operating temperature	2 - 120°C
Fan speed control voltage	0 - 10V		

EN16430 certified outputs

Fan speed	Heat output, W			Sound pressure level, dB(A)	Max. air flow, m³/h	No. of fans, pcs.	Max el. current, A	Max power consumption, W	Water flow, l/h
	90/70/20°C Δt = 60°C	75/65/20°C Δt = 50°C	55/45/20°C Δt = 30°C						
FH3-H 91									
100%	733	617	381	33	84	1	0.08	1.9	54
80%	607	511	316	24	66		0.06	1.5	
60%	454	382	236	18	54		0.05	1.2	
40%	273	230	142	-	30		0.03	0.8	
20%	64	54	33	-	18		0.02	0.4	
FH3-H 121									
100%	1 269	1 069	660	34	144	1	0.10	2.4	94
80%	1 051	885	547	25	108		0.08	1.9	
60%	786	661	408	19	90		0.06	1.4	
40%	472	398	246	17	48		0.04	1.0	
20%	111	94	58	-	24		0.02	0.5	
FH3-H 175									
100%	2 188	1 842	1 137	35	252	1	0.18	4.3	162
80%	1 812	1 526	942	26	204		0.14	3.5	
60%	1 354	1 140	704	20	162		0.11	2.6	
40%	814	685	423	18	108		0.07	1.7	
20%	192	161	100	-	48		0.04	0.9	

Fan speed	Heat output, W			Sound pressure level, dB(A)	Max. air flow, m³/h	No. of fans, pcs.	Max el. current, A	Max power consumption, W	Water flow, l/h
	90/70/20°C Δt = 60°C	75/65/20°C Δt = 50°C	55/45/20°C Δt = 30°C						
FH3-H 200									
100%	2 649	2 230	1 377	36	288	2	0.20	4.8	196
80%	2 194	1 847	1 141	27	216		0.16	3.8	
60%	1 640	1 381	852	20	180		0.12	2.9	
40%	986	830	512	18	96		0.08	1.9	
20%	232	195	121	-	48		0.04	1.0	
FH3-H 250									
100%	3 568	3 004	1 855	38	396	2	0.28	6.7	264
80%	2 955	2 488	1 536	29	312		0.22	5.4	
60%	2 208	1 859	1 148	22	252		0.17	4.0	
40%	1 328	1 118	690	19	156		0.11	2.7	
20%	313	263	163	17	72		0.06	1.3	
FH3-H 300									
100%	4 497	3 786	2 338	39	504	2	0.36	8.6	333
80%	3 725	3 136	1 937	30	408		0.29	6.9	
60%	2 784	2 344	1 447	23	324		0.22	5.2	
40%	1 673	1 409	870	20	216		0.14	3.5	
20%	394	332	205	18	96		0.07	1.7	

Heat outputs at specific temperatures are available in Selection tables at www.konveka.com

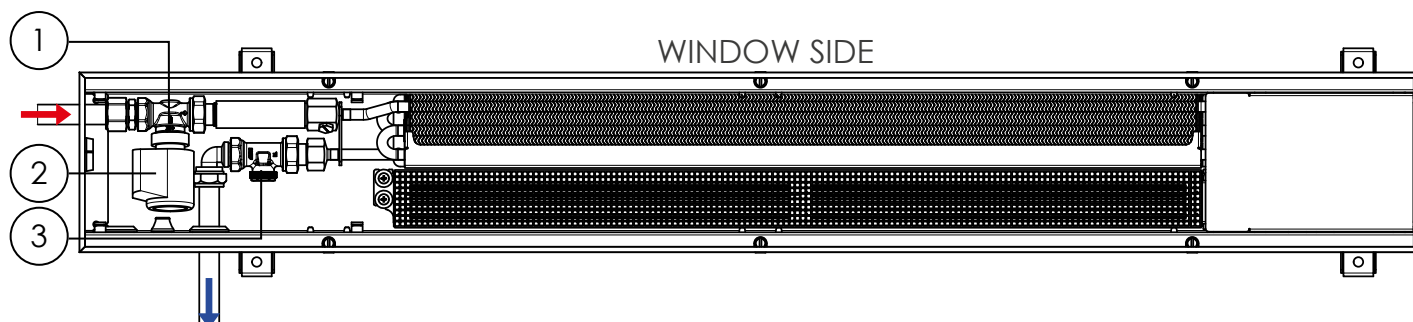
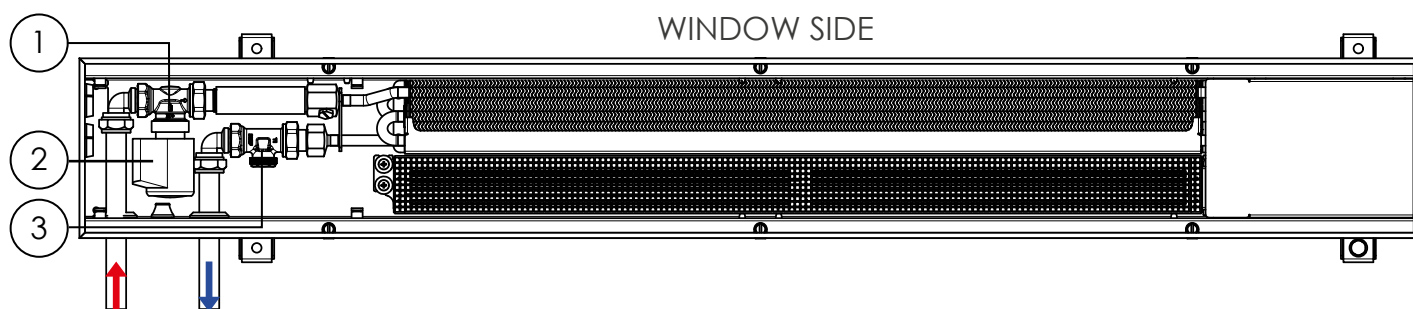
Pressure losses

Length, cm	MAX flow, l/h	MAX power, W	Formulas for pressure losses, Pa	MAX pressure losses, Pa
91	53	617	$0,41 \times (0,1033 \times q^2 - 6,0365 \times q + 625,15)$	244
121	92	1 069	$0,71 \times (0,1033 \times q^2 - 6,0365 \times q + 625,15)$	669
175	158	1 842	$1,22 \times (0,1033 \times q^2 - 6,0365 \times q + 625,15)$	2 767
200	192	2 230	$1,48 \times (0,1033 \times q^2 - 6,0365 \times q + 625,15)$	4 841
250	258	3 004	$2,00 \times (0,1033 \times q^2 - 6,0365 \times q + 625,15)$	11 891
300	326	3 786	$2,52 \times (0,1033 \times q^2 - 6,0365 \times q + 625,15)$	24 178

q – Flow of energy carrier (l/h)

EXAMPLE OF CONNECTIONS

FH3-H



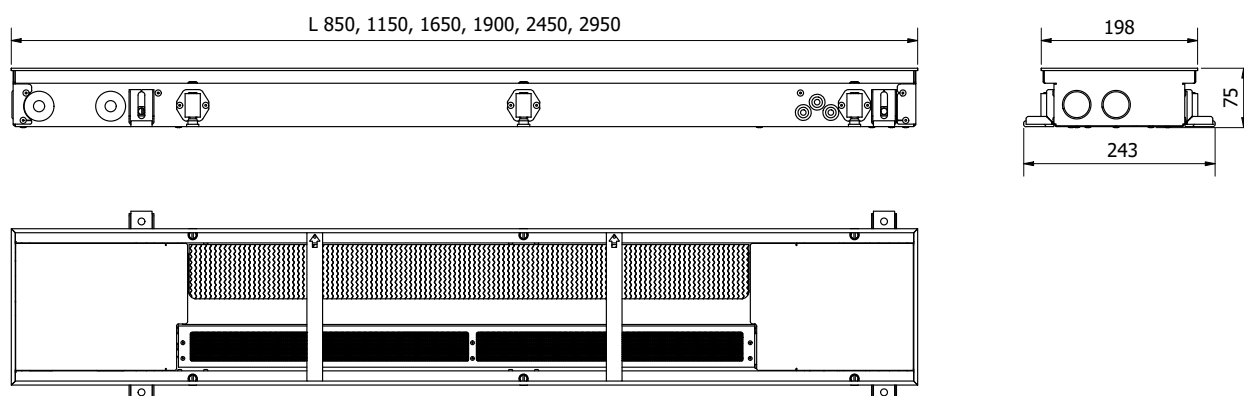
- ① Thermostatic valve, straight ② Thermostatic valve actuator ③ Straight lockshield valve

INSTALLATION FEATURES

- Side with heat exchanger is always mounted closer to the window (wall)
- Energy carrier supply pipes has to be connected to heat exchangers connectors which are further from the fans
- Energy carrier outlet pipes has to be connected to heat exchangers connectors which are closer to the fans
- Height of the device can be adjusted at any time of exploitation (when installed in raised floor)

ORDER CODE

Type	Length, cm	Example
FH3-H	121	FH3-H 121



TECHNICAL DATA

Length	850-3000 mm	Thread of hydr. connections	G 1/2"
Width	198 mm	Thread type of hydr. connections	inner
Height = installation height	75 mm	Side of the hydr. connections	left
Type of fan motors	EC	Operating pressure	25 bar
Fan operating voltage	24V DC	Operating temperature	2 - 120°C
Fan speed control voltage	0 - 10V		

EN16430 certified outputs

Fan speed	Heat output, W			Sound pressure level, dB(A)	Max. air flow, m³/h	No. of fans, pcs.	Max el. current, A	Max power consumption, W	Water flow, l/h
	90/70/20°C Δt = 60°C	75/65/20°C Δt = 50°C	55/45/20°C Δt = 30°C						
FH3-L 85									
100%	700	577	335	33	84	1	0.08	1.9	51
80%	625	515	300	24	66		0.06	1.5	
60%	503	414	241	18	54		0.05	1.2	
40%	331	273	159	-	30		0.03	0.8	
20%	111	91	53	-	18		0.02	0.4	
FH3-L 115									
100%	1 212	998	581	34	144	1	0.10	2.4	88
80%	1 083	893	519	25	108		0.08	1.9	
60%	870	717	417	19	90		0.06	1.4	
40%	573	472	275	17	48		0.04	1.0	
20%	192	158	92	-	24		0.02	0.5	
FH3-L 165									
100%	2 089	1 721	1 001	35	252	1	0.18	4.3	151
80%	1 867	1 539	895	26	204		0.14	3.5	
60%	1 500	1 236	719	20	162		0.11	2.6	
40%	988	814	473	18	108		0.07	1.7	
20%	330	272	158	-	48		0.04	0.9	

Fan speed	Heat output, W			Sound pressure level, dB(A)	Max. air flow, m³/h	No. of fans, pcs.	Max el. current, A	Max power consumption, W	Water flow, l/h
	90/70/20°C Δt = 60°C	75/65/20°C Δt = 50°C	55/45/20°C Δt = 30°C						
FH3-L 190									
100%	2 529	2 084	1 212	36	288	2	0.20	4.8	183
80%	2 261	1 863	1 083	27	216		0.16	3.8	
60%	1 817	1 497	871	20	180		0.12	2.9	
40%	1 196	986	573	18	96		0.08	1.9	
20%	400	329	192	-	48		0.04	1.0	
FH3-L 245									
100%	3 406	2 807	1 632	38	396	2	0.28	6.7	247
80%	3 045	2 509	1 459	29	312		0.22	5.4	
60%	2 447	2 016	1 173	22	252		0.17	4.0	
40%	1 611	1 328	772	19	156		0.11	2.7	
20%	538	444	258	17	72		0.06	1.3	
FH3-L 300									
100%	4 293	3 538	2 057	39	504	2	0.36	8.6	311
80%	3 838	3 163	1 839	30	408		0.29	6.9	
60%	3 084	2 542	1 478	23	324		0.22	5.2	
40%	2 031	1 674	973	20	216		0.14	3.5	
20%	679	559	325	18	96		0.07	1.7	

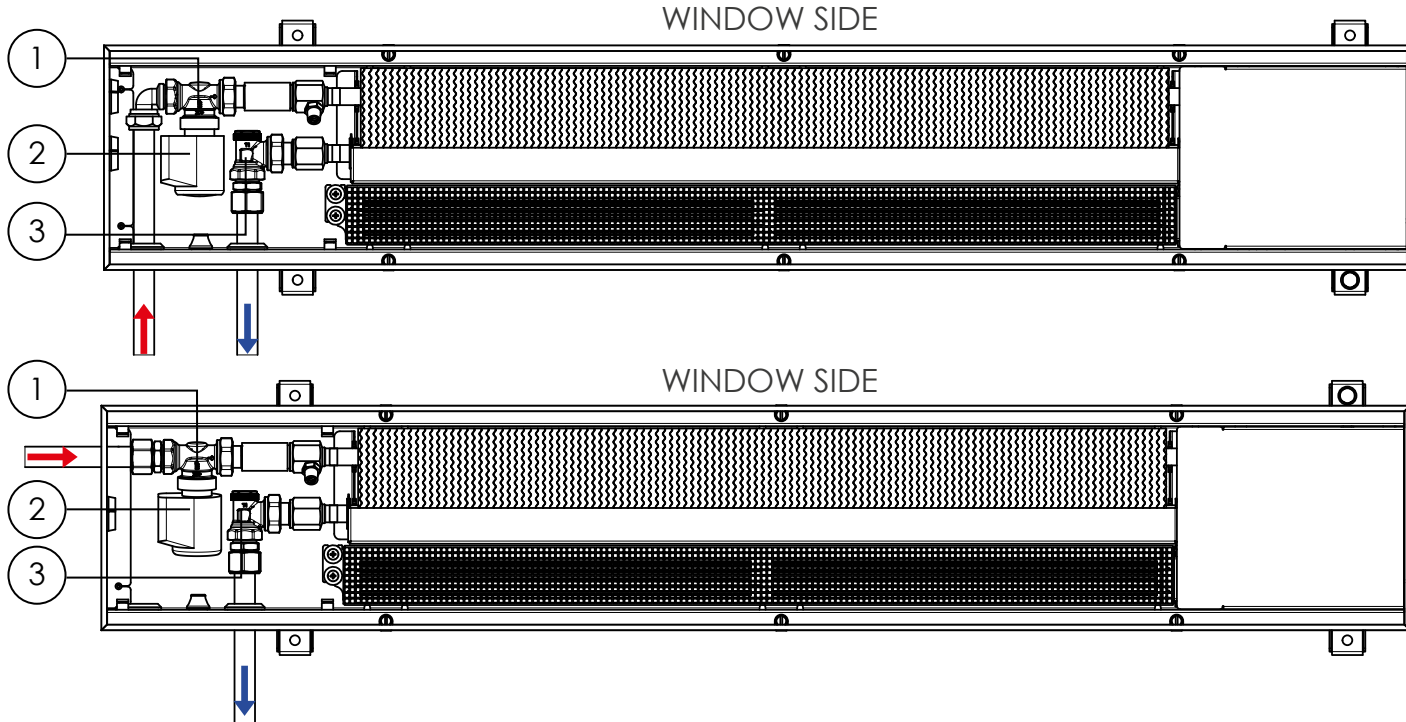
Heat outputs at specific temperatures are available in Selection tables at www.konveka.com

Pressure losses

Length, cm	MAX flow, l/h	MAX power, W	Formulas for pressure losses, Pa	MAX pressure losses, Pa
85	50	577	$0,41 \times (0,0067 \times q^2 + 0,0917 \times q - 2,1454)$	8
115	86	998	$0,71 \times (0,0067 \times q^2 + 0,0917 \times q - 2,1454)$	39
165	148	1 721	$1,22 \times (0,0067 \times q^2 + 0,0917 \times q - 2,1454)$	194
190	179	2 084	$1,48 \times (0,0067 \times q^2 + 0,0917 \times q - 2,1454)$	340
245	241	2 807	$2,00 \times (0,0067 \times q^2 + 0,0917 \times q - 2,1454)$	819
300	304	3 538	$2,52 \times (0,0067 \times q^2 + 0,0917 \times q - 2,1454)$	1 625

q – Flow of energy carrier (l/h)

EXAMPLE OF CONNECTIONS



- ① Thermostatic valve, straight ② Thermostatic valve actuator ③ Angle lockshield valve

INSTALLATION FEATURES

- Side with heat exchanger is always mounted closer to the window (wall)
- Energy carrier supply pipes has to be connected to heat exchangers connectors which are further from the fans
- Energy carrier outlet pipes has to be connected to heat exchangers connectors which are closer to the fans
- Height of the device can be adjusted at any time of exploitation (when installed in raised floor)

ORDER CODE

Type	Length, cm	Example
FH3-L	115	FH3-L 115

ACCESSORIES

THERMOSTATIC VALVE **TVS15**

Controls flow of energy carrier. Controlled by thermal actuator A24NC



Controls flow with thermoelectric actuator

Provides possibility to close flow and disconnect heat exchanger from heating system without draining

DN15 Kvs = 2,00

LOCKSHIELD VALVE (STRAIGHT) **LS15**

Opens, closes or limits flow of energy carrier



For energy carrier opening, closing and presetting of maximal flow

Provides possibility to close flow and disconnect heat exchanger from heating system without draining

DN15 Kvs = 1,74

DN20 Kvs = 1,93

LOCKSHIELD VALVE (ANGLE) **LA15**

Opens, closes or limits flow of energy carrier



For energy carrier opening, closing and presetting of maximal flow

Provides possibility to close flow and disconnect heat exchanger from heating system without draining

DN15 Kvs = 1,74

DN20 Kvs = 1,93

THERMOSTATIC VALVE ACTUATOR **A24NC**

Opens / closes thermostatic valve. Controlled by room thermostat TW24



Opening/closing of thermostatic valves (ON/OFF)

Thermoelectric

Opened/Closed indicator

Voltage 24V DC

ROOM THERMOSTAT **TW24**

Controls thermal actuator A24NC and fans according to preset room temperature



For maintaining the set room temperature

Day/night and weekly temperature programmes

Accuracy of temperature control $\pm 0,5^{\circ}\text{C}$

Power supply of 24V DC

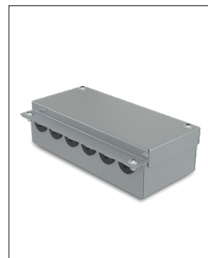
Stepless fan rotating speed control, 0–10 V

Valve actuator control (ON/OFF)

Backlit LED display

ELECTRIC CONTROL BOX **CB20**

For power supply of fans, actuators A24NC and room thermostat TW24



Can be installed inside convector's casing

Ensures easy and fast connection between convector and room thermostat

24V DC power supply included

El. connectors for fast connection of the cables included

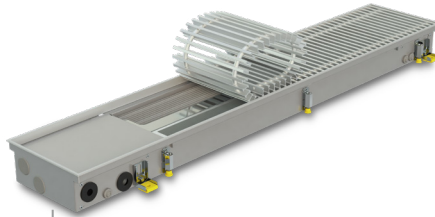
ORDER CODES

Accessory	Order code
Thermostatic valve	TVS15
Thermostatic valve actuator	A24NC
Lockshield valve (angle)	LA15
Lockshield valve (straight)	LS15
Room thermostat	TW24
Electric control box	CB20

CONNECTING ONE FH TO ROOM THERMOSTAT

ROOM THERMOSTAT **TW24**

TRENCH HEATER **FH**



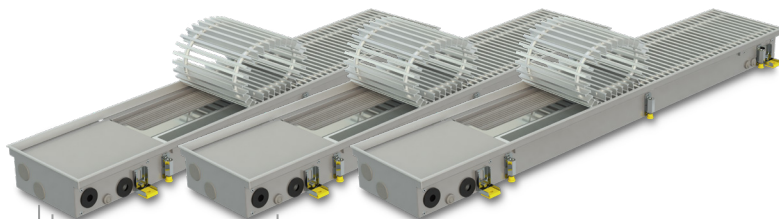
THERMOSTATIC
VALVE ACTUATOR **A24NC**



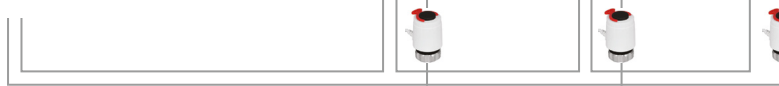
CONNECTING MULTIPLE FH TO ROOM THERMOSTAT

ROOM THERMOSTAT **TW24**

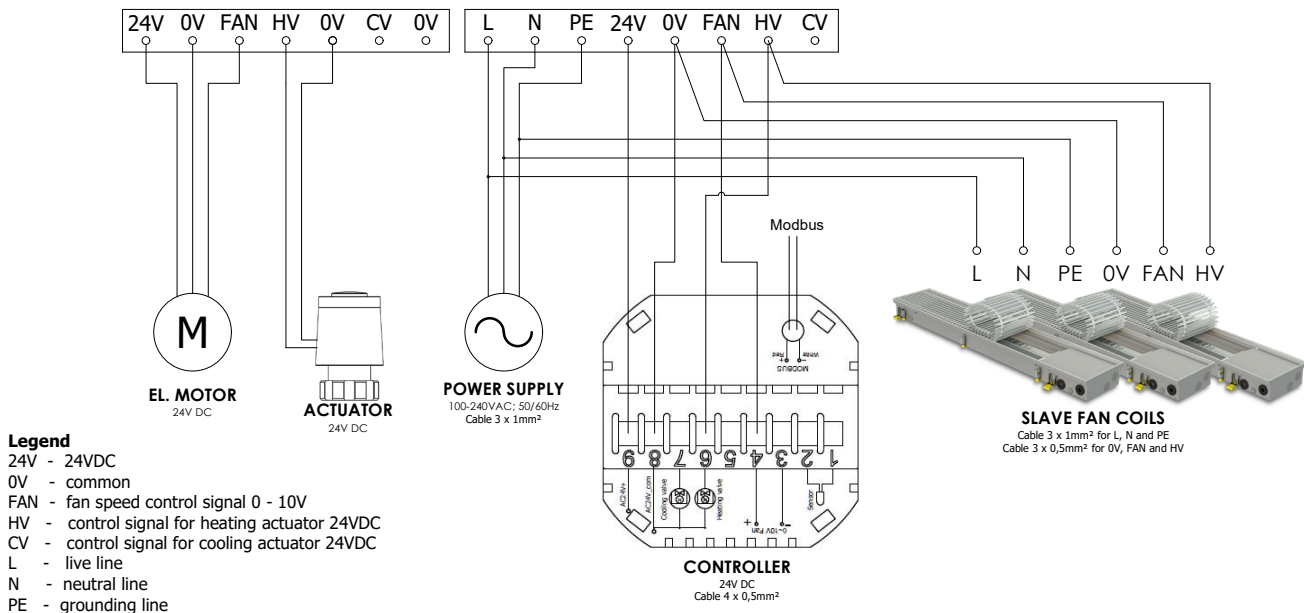
TRENCH HEATERS **FH** (UP TO 30 PCS)



THERMOSTATIC
VALVE ACTUATORS **A24NC**



WIRING DIAGRAM



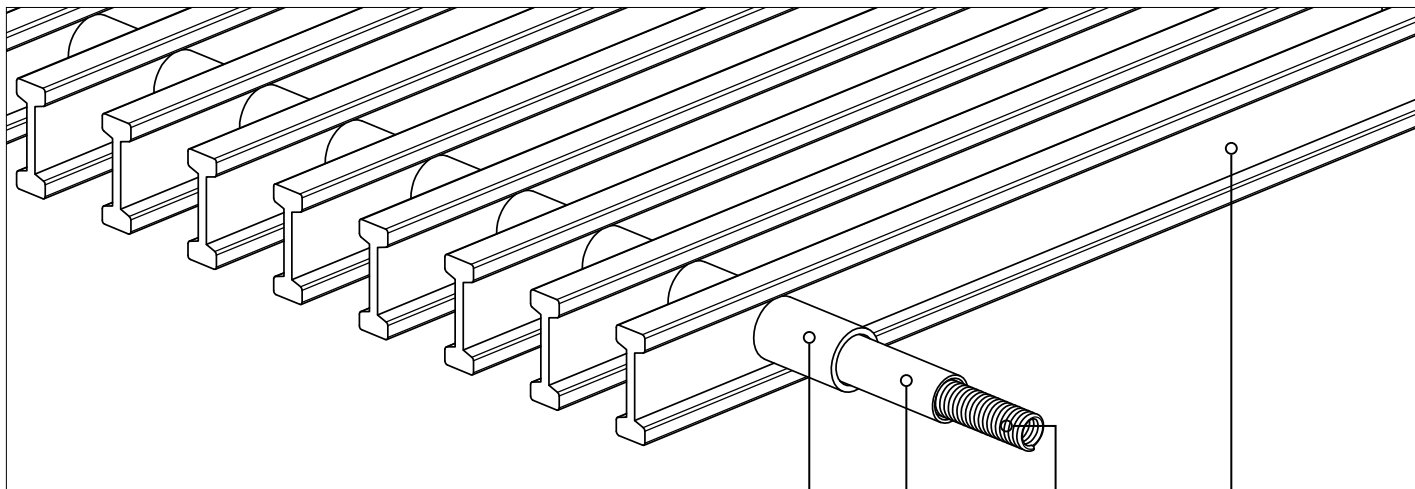
- Trench heaters installed in the same room are controlled based on Master-Slave principle
- Speed of fans are controlled 0-10 V by room thermostat. Voltage – 24VDC

- Valve actuators are controlled ON/OFF by room thermostat. Voltage – 24VDC
- Up to 30 trench heaters can be controlled with one room thermostat TW24

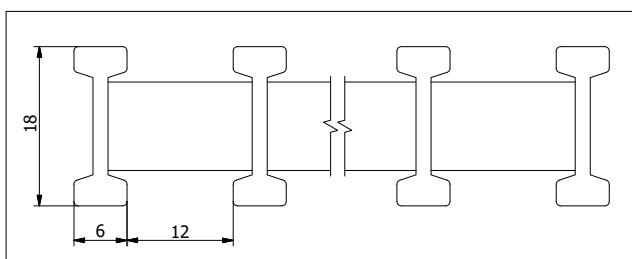
GRILLES

ALUMINIUM ROLL-UP GRILLES

GRILLES



GRILLE PROFILE



① Aluminium profile

- made of anodized aluminium
- reinforced reversible double T profile

② Spacers

- made of anodized aluminium
- does not shrink or crack when exposed on UV or heat
- the colour is exactly the same as colour of profiles

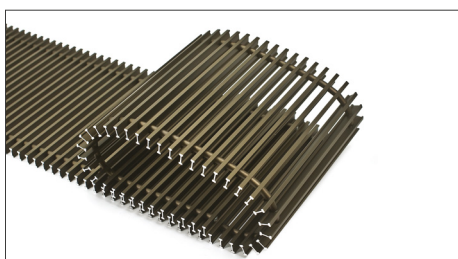
③ Spring

④ Flexible protective pipe

SILVER (ALS)



BROWN (AL 10)



BLACK (AL 50)



ALUMINIUM LINEAR GRILLES

SILVER (ALS)



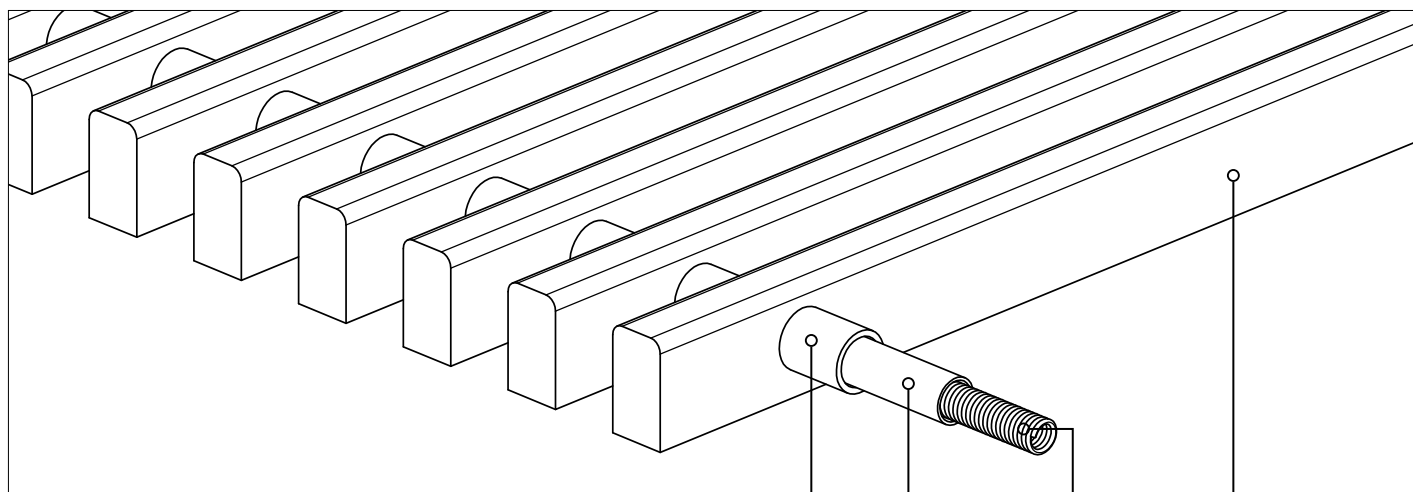
BROWN (AL 10)



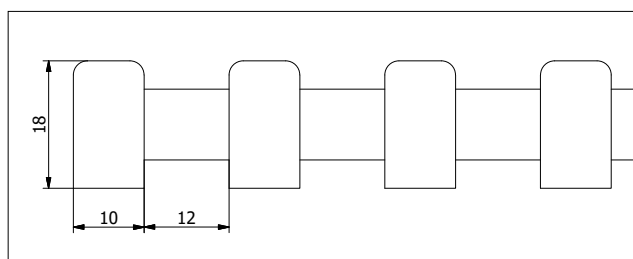
BLACK (AL 50)



WOODEN ROLL-UP GRILLES



GRILLE PROFILE

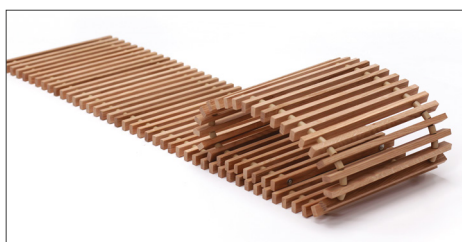


- ① **Wooden profile**
- made of solid wood

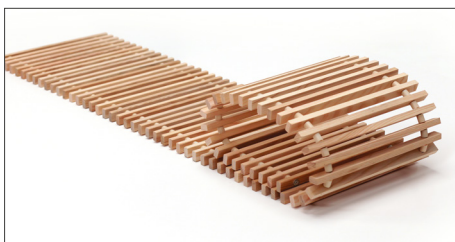
- ② **Spacers**
- made of anodized aluminium
- does not shrink or crack when exposed on UV or heat

- ③ **Spring**
④ **Flexible protective pipe**

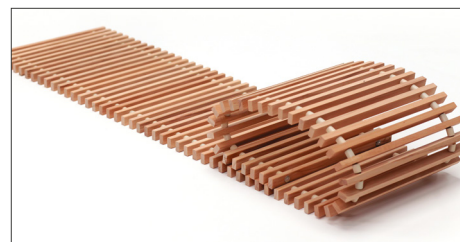
OAK



ASH



BEECH



ORDER CODE FOR GRILLES

Type	Length, cm	Width, cm	Material	Example
GR	115	21,6	ALS	GR 115-21,6 ALS

ABOUT KONVEKA

Konveka is a **full production cycle convector manufacturing company** engaged in this activity **since 2005**. The range of products we develop and manufacture is wide: from simple natural convection convectors to complex devices with fans for heating, cooling and ventilation.

Konveka is a manufacturer of high-quality and reliable convectors:

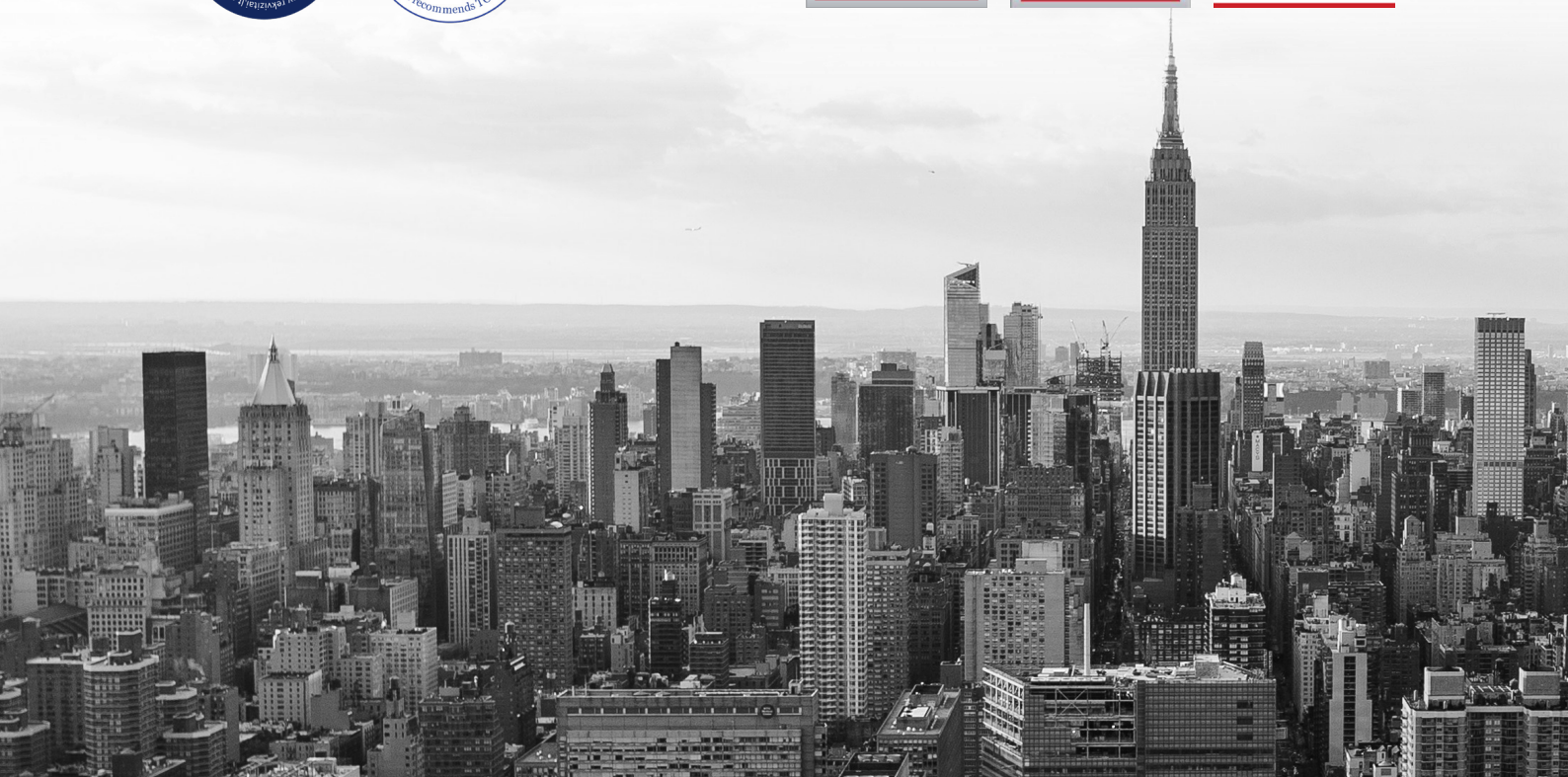
- We provide a **5 - 10 year warranty for all our products** (except their electrical part) without any additional warranty extension fees.
- **The capacities of all our products are determined by independent accredited laboratories** according to current standards. With us, 1kW means 1kW.
- We **do not use cheap, unapproved solutions or use unreliable materials** when designing and manufacturing our devices.

Although we operate in a highly competitive international market, **we are at the forefront where quality, durability and reliability are valued.**

We are well known in **Eastern and Western Europe, Scandinavia, North America and Central Asia**. Konveka products can be seen in many prestigious buildings around the world: administrative buildings, shopping malls, airports, restaurants, theaters, universities, hotels, apartment buildings and individual homes. Visit our website www.konveka.com for more information.

Konveka consistently wins **national awards** (see below) for **reliability, consistency and business growth**.

Our slogan - **“More than you expected”** reflects the quality of our products and technical solutions, which often exceed customer expectations. We value our customers and are happy to be a part of their successful business.



NOTES

NOTES

NOTES



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