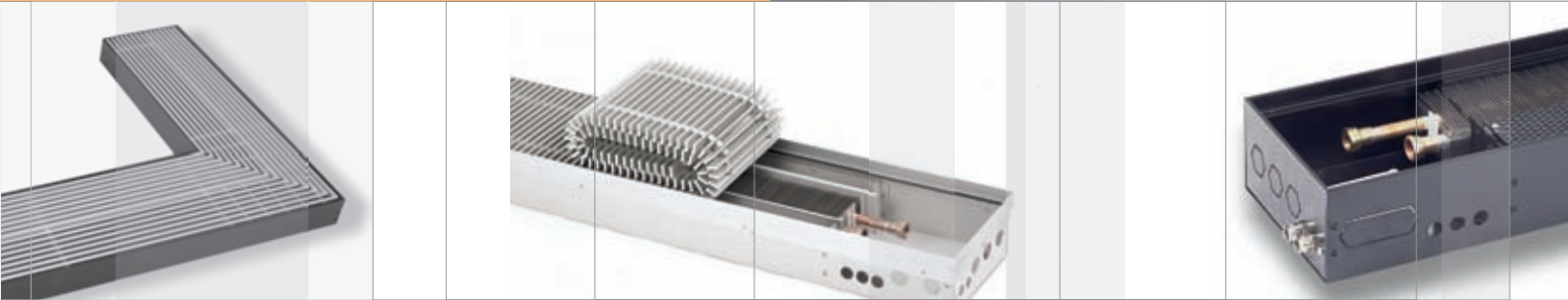


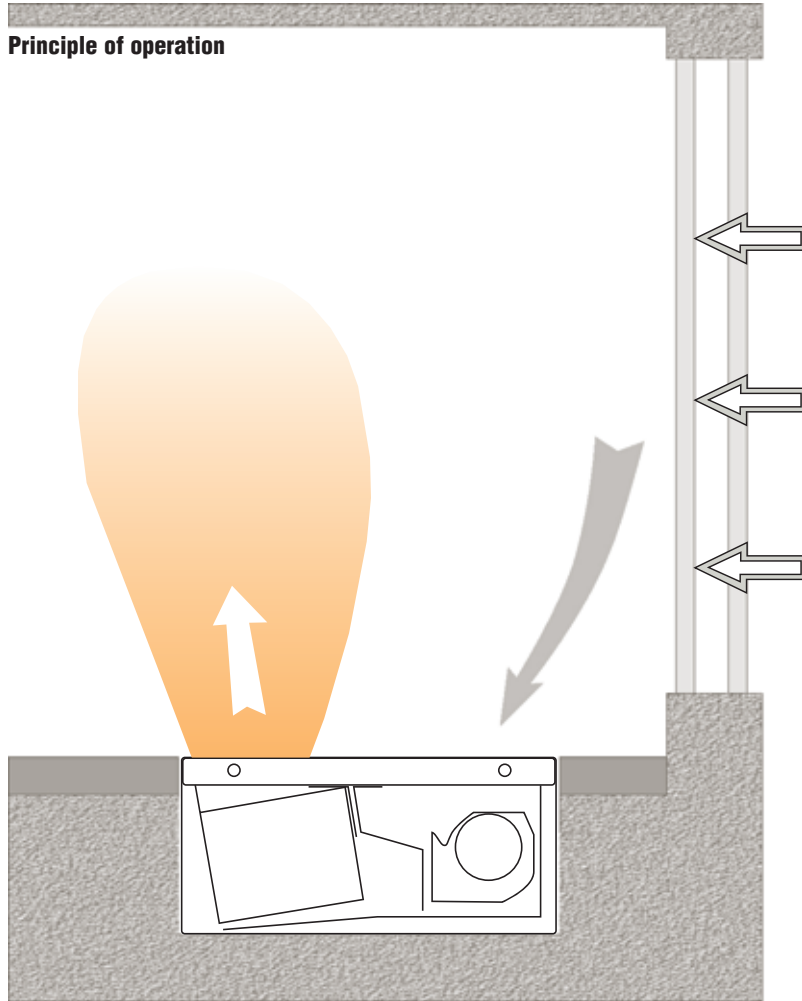
TECHNICAL CATALOGUE 2010



Floor convectors for heating and cooling (incl. TKH-4C)

Hidria

Principle of operation



Cooling and Heating Floor Convectors TKH

Application:

Cooling floor fan convectors are designed for secondary cooling, during the cooling season, in rooms where cooling is required close to the heat source (e.g. solar radiation through windows) to prevent room temperature raising. They are suitable for all rooms with large hot envelope surfaces (large windows, glazing, etc.). They are applied in buildings in which, due to the construction characteristics, ceiling cooling is not feasible. During the heating season, the convectors can be applied for room heating.

Operation:

Cooling floor fan convectors operate on the principle of forced convection, i.e. the air flow rate is augmented by a tangential fan.

In the cooling mode, the TKH floor convector draws in warm air from the areas around windows and hot walls, cools it in the heat exchanger, and feeds it back into the room. This reduces heat gains due to heat room envelope surfaces. In the cooling process, a part of moisture is extracted from the air; this dehumidification also contributes to thermal comfort. In the heating mode, the process is inverted: the TKH draws in cold air from the window areas, heats it and feeds back into the room.

TKH (Basic Design) Components:

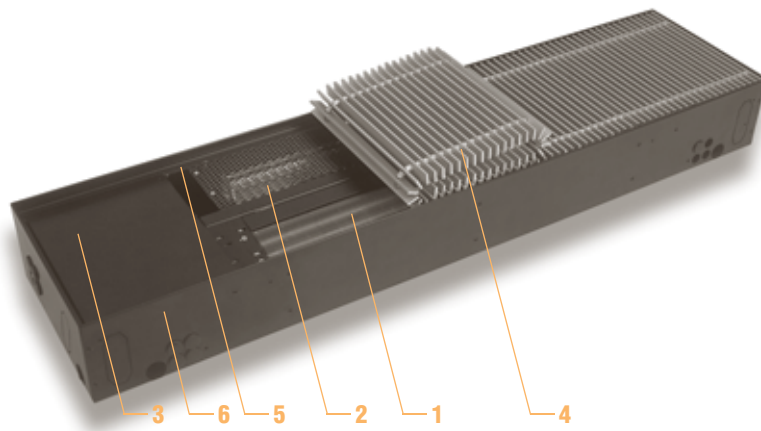
1. Heat exchanger,
2. Tangential fan (with IP 44 protection),
3. Electric connection socket,
4. Grille,
5. Condensation collection tray,
6. Housing.

Types:

Four TKH floor convector models are available: of length 1250 mm, 1300 mm, 2150 mm and 2200 mm.

Control Accessories:

The water side control accessories or special grille designs can be installed or supplied on request. The range of accessories equals to the one for TKV/08.



Floor convector TKH dimensions:

Type	Housing length L (mm)	Heat exchanger length K (mm)	Width (mm)	Height (mm)
TKH2C-130x30x14	1300	895	300	140
TKH2C-220x30x14	2200	1795	300	140
TKH4C-130x40x14	1300	895	400	140
TKH4C-220x40x14	2200	1795	400	140
TKH4C-130x40x18	1300	895	400	180
TKH4C-220x40x18	2200	1795	400	180

TKH floor convector size				
TKH-2C/45 130x30x14/1 TKH-2C/45 220x30x14/2				
Total cooling capacity⁽¹⁾	MAX	W	749	1649
	MED	W	590	1227
	MIN	W	443	791
Sensible cooling capacity⁽¹⁾	MAX	W	557	1340
	MED	W	400	940
	MIN	W	270	574
Water flow	MAX	kg/h	128	283
	MED	kg/h	101	210
	MIN	kg/h	76	136
Pressure drop on the water side, cooling	MAX	kPa	0,44	2,09
	MED	kPa	0,30	1,29
	MIN	kPa	0,20	0,66
Heating capacity⁽²⁾	MAX	W	1981	4218
	MED	W	1384	2585
	MIN	W	935	1851
Water flow	MAX	kg/h	170	362
	MED	kg/h	119	222
	MIN	kg/h	80	159
Pressure drop on the water side, heating	MAX	kPa	0,67	2,92
	MED	kPa	0,36	1,20
	MIN	kPa	0,19	0,67
Standard water connectors			1/2"	3/4"
Standard water content in the heat exchanger		l	1.0	2.0
Number of fans			1	2
Power supply connector		V-f-Hz	230-1-50	230-1-50
Max. input power	MAX	W	19	38
Max. input current	MAX	A	0.17	0.33
Standard connector for the condensate drain pipe			16	16
Sound power⁽³⁾	MAX	dB(A)	47	49
	MED	dB(A)	38	39
	MIN	dB(A)	34	35
Sound pressure⁽⁴⁾	MAX	dB(A)	36	38
	MED	dB(A)	31	30
	MIN	dB(A)	25	26

⁽¹⁾ Cooling capacity measurements are carried out in accordance with the EUROVENT 6/3 norm:

- water inlet temperature: 7 °C,
- water outlet temperature: 12 °C,
- room air temperature: 27 °C,
- room air relative humidity: 47 %.

⁽²⁾ Heating capacity measurements are carried out in accordance with the EN 442 norm:

- water inlet temperature: 75 °C,
- water outlet temperature: 65 °C,
- room air relative humidity: 20 °C.

⁽³⁾ Sound power level measurements are carried out in an anechoic room with reflecting floor, with a volume of 109 m³, in accordance with the ISO 3745 standard.

⁽⁴⁾ The sound pressure measurements are carried out in an anechoic room, at the microphone distance of 1 m and at the angle of 45° above the floor convector.

TKH floor convector size				
TKH-2C/45 130x30x14/1 TKH-2C/45 220x30x14/2				
Total cooling capacity⁽⁵⁾	MAX	W	884	1724
	MED	W	716	1349
	MIN	W	552	927
Sensible cooling capacity⁽⁵⁾	MAX	W	658	1401
	MED	W	486	1033
	MIN	W	337	673

- ⁽⁵⁾ - water flow: 360 kg/h,
 - water inlet temperature: 7 °C,
 - room air temperature: 27 °C,
 - room air relative humidity: 47 %.

TKH floor convector size				
		TKH-4C/45-130x40x14/1	TKH-4C/45-220x40x14/2	
Total cooling capacity⁽¹⁾	MAX	W	781	1632
	MED	W	595	1250
	MIN	W	434	887
Sensible cooling capacity⁽¹⁾	MAX	W	630	1316
	MED	W	458	961
	MIN	W	319	652
Water flow	MAX	kg/h	133.9	279.8
	MED	kg/h	102.1	214.3
	MIN	kg/h	74.4	152.1
Pressure drop on the water side, cooling	MAX	kPa	0.9	3.9
	MED	kPa	0.6	2.5
	MIN	kPa	0.4	1.4
Heating capacity⁽²⁾	MAX	W	1797	3755
	MED	W	1215	2550
	MIN	W	849	781
Water flow	MAX	kg/h	154.0	321.8
	MED	kg/h	104.1	218.6
	MIN	kg/h	72.8	148.8
Pressure drop on the water side, heating	MAX	kPa	7.6	32.3
	MED	kPa	3.6	15.3
	MIN	kPa	1.8	7.3
Standard water connectors			1/2"	1/2"
Standard water content in the heat exchanger		l	2.0	4.0
Number of fans			1	2
Power supply connector		V-f-Hz	230 - 1 - 50	230 - 1 - 50
Max. input power	MAX	W	19	38
Max. input current	MAX	A	0.17	0.33
Standard connector for the condensate drain pipe			16	16
Sound power⁽³⁾	MAX	dB(A)	41	43
	MED	dB(A)	33	35
	MIN	dB(A)	28	32
Sound pressure⁽⁴⁾	MAX	dB(A)	32	32
	MED	dB(A)	24	24
	MIN	dB(A)	<20	21

⁽¹⁾ Cooling capacity measurements are carried out in accordance with the EUROVENT 6/3 norm:

- water inlet temperature: 7 °C,
- water outlet temperature: 12 °C,
- room air temperature: 27 °C,
- room air relative humidity: 47 %.

⁽²⁾ Heating capacity measurements are carried out in accordance with the EN 442 norm:

- water inlet temperature: 75 °C,
- water outlet temperature: 65 °C,
- room air relative humidity: 20 °C.

⁽³⁾ Sound power level measurements are carried out in an anechoic room with reflecting floor, with a volume of 109 m³, in accordance with the ISO 3745 standard.

⁽⁴⁾ The sound pressure measurements are carried out in an anechoic room, at the microphone distance of 1 m and at the angle of 45° above the floor convector.

TKH floor convector size				
		TKH-4C/45-130x40x14/1	TKH4C/45-220x40x14/2	
Total cooling capacity⁽⁵⁾	MAX	W	917	1710
	MED	W	722	1370
	MIN	W	542	1024
Sensible cooling capacity⁽⁵⁾	MAX	W	740	1379
	MED	W	555	1053
	MIN	W	398	753

- ⁽⁵⁾ - water flow: 360 kg/h,
 - water inlet temperature: 7 °C,
 - room air temperature: 27 °C,
 - room air relative humidity: 47 %.

TKH floor convector size				
			TKH-4C/45-130x40x18/1	TKH-4C/45-220x40x18/2
Total cooling capacity⁽¹⁾	MAX	W	840	1778
	MED	W	653	1359
	MIN	W	507	966
Sensible cooling capacity⁽¹⁾	MAX	W	687	1474
	MED	W	495	1057
	MIN	W	359	750
Water flow	MAX	kg/h	144.1	304.7
	MED	kg/h	112.0	233.1
	MIN	kg/h	86.9	165.6
Pressure drop on the water side, cooling	MAX	kPa	1.0	4.5
	MED	kPa	0.7	2.9
	MIN	kPa	0.4	1.6
Heating capacity⁽²⁾	MAX	W	1958	4089
	MED	W	1340	2805
	MIN	W	925	1873
Water flow	MAX	kg/h	167.8	350.5
	MED	kg/h	114.8	240.5
	MIN	kg/h	80.0	160.6
Pressure drop on the water side, heating	MAX	kPa	9.0	38.2
	MED	kPa	4.4	18.3
	MIN	kPa	2.2	8.4
Standard water connectors			1/2"	1/2"
Standard water content in the heat exchanger		l	2.0	4.0
Number of fans			1	2
Power supply connector		V-f-Hz	230 - 1 - 50	230 - 1 - 50
Max. input power	MAX	W	19	38
Max. input current	MAX	A	0.17	0.33
Standard connector for the condensate drain pipe			16	16
Sound power⁽³⁾	MAX	dB(A)	42	44
	MED	dB(A)	34	36
	MIN	dB(A)	29	31
Sound pressure⁽⁴⁾	MAX	dB(A)	33	33
	MED	dB(A)	25	25
	MIN	dB(A)	20	20

⁽¹⁾ Cooling capacity measurements are carried out in accordance with the EUROVENT 6/3 norm:

- water inlet temperature: 7 °C,
- water outlet temperature: 12 °C,
- room air temperature: 27 °C,
- room air relative humidity: 47 %.

⁽²⁾ Heating capacity measurements are carried out in accordance with the EN 442 norm:

- water inlet temperature: 75 °C,
- water outlet temperature: 65 °C,
- room air relative humidity: 20 °C.

⁽³⁾ Sound power level measurements are carried out in an anechoic room with reflecting floor, with a volume of 109 m³, in accordance with the ISO 3745 standard.

⁽⁴⁾ The sound pressure measurements are carried out in an anechoic room, at the microphone distance of 1 m and at the angle of 45° above the floor convector.

TKH floor convector size				
			TKH-4C/45-130x40x18/1	TKH4C/45-220x40x18/2
Total cooling capacity⁽⁵⁾	MAX	W	977	1834
	MED	W	784	1469
	MIN	W	625	1101
Sensible cooling capacity⁽⁵⁾	MAX	W	799	1521
	MED	W	594	1143
	MIN	W	442	855

- ⁽⁵⁾ - water flow: 360 kg/h,
 - water inlet temperature: 7 °C,
 - room air temperature: 27 °C,
 - room air relative humidity: 47 %.

		TKH floor convector size			
		TKH-4C/60-130x40x14/1		TKH-4C/60-220x40x18/2	
Total cooling capacity⁽¹⁾	MAX	W	1565		3285
	MED	W	1311		2753
	MIN	W	1039		2170
Sensible cooling capacity⁽¹⁾	MAX	W	1261		2648
	MED	W	1008		2117
	MIN	W	764		1595
Water flow	MAX	kg/h	268.3		563.1
	MED	kg/h	224.7		472.0
	MIN	kg/h	178.1		372.1
Pressure drop on the water side, cooling	MAX	kPa	3.1		13.6
	MED	kPa	2.3		9.9
	MIN	kPa	1.5		6.5
Heating capacity⁽²⁾	MAX	W	2640		5544
	MED	W	2204		4518
	MIN	W	1852		3726
Water flow	MAX	kg/h	226.3		475.2
	MED	kg/h	188.9		387.3
	MIN	kg/h	158.7		319.4
Pressure drop on the water side, heating	MAX	kPa	16.0		69.4
	MED	kPa	11.3		46.4
	MIN	kPa	8.1		31.9
Standard water connectors			1/2"		1/2"
Standard water content in the heat exchanger		l	2.0		4.0
Number of fans			1		2
Power supply connector		V-f-Hz	230 - 1 - 50		230 - 1 - 50
Max. input power	MAX	W	25.2		50.4
Max. input current	MAX	A	0.13		0.26
Standard connector for the condensate drain pipe			16		16
Sound power⁽³⁾	MAX	dB(A)	51		53
	MED	dB(A)	43		45
	MIN	dB(A)	35		39
Sound pressure⁽⁴⁾	MAX	dB(A)	42		42
	MED	dB(A)	34		34
	MIN	dB(A)	26		28

⁽¹⁾ Cooling capacity measurements are carried out in accordance with the EUROVENT 6/3 norm:

- water inlet temperature: 7 °C,
- water outlet temperature: 12 °C,
- room air temperature: 27 °C,
- room air relative humidity: 47 %.

⁽²⁾ Heating capacity measurements are carried out in accordance with the EN 442 norm:

- water inlet temperature: 75 °C,
- water outlet temperature: 65 °C,
- room air relative humidity: 20 °C.

⁽³⁾ Sound power level measurements are carried out in an anechoic room with reflecting floor, with a volume of 109 m³, in accordance with the ISO 3745 standard.

⁽⁴⁾ The sound pressure measurements are carried out in an anechoic room, at the microphone distance of 1 m and at the angle of 45° above the floor convector.

		TKH floor convector size			
		TKH-4C/60-130x40x18/1		TKH4C/60-220x40x18/2	
Total cooling capacity⁽⁵⁾	MAX	W	1652		2992
	MED	W	1426		2607
	MIN	W	1172		2156
Sensible cooling capacity⁽⁵⁾	MAX	W	1331		2412
	MED	W	1096		2005
	MIN	W	862		1685

- ⁽⁵⁾ - water flow: 360 kg/h,
 - water inlet temperature: 7 °C,
 - room air temperature: 27 °C,
 - room air relative humidity: 47 %.

TKH floor convector size				
TKH-4C/60-130x40x18/1/ TKH-4C/60-220x40x18/2				
Total cooling capacity⁽¹⁾	MAX	W	1704	3564
	MED	W	1508	3031
	MIN	W	1148	2377
Sensible cooling capacity⁽¹⁾	MAX	W	1374	2873
	MED	W	1159	2331
	MIN	W	844	1747
Water flow	MAX	kg/h	292.2	611.0
	MED	kg/h	258.5	519.6
	MIN	kg/h	196.8	407.4
Pressure drop on the water side, cooling	MAX	kPa	3.7	15.9
	MED	kPa	2.9	11.8
	MIN	kPa	1.8	7.6
Heating capacity⁽²⁾	MAX	W	2970	5981
	MED	W	2444	4966
	MIN	W	2056	4060
Water flow	MAX	kg/h	254.6	512.7
	MED	kg/h	209.5	425.6
	MIN	kg/h	176.2	348.0
Pressure drop on the water side, heating	MAX	kPa	20.2	80.6
	MED	kPa	13.8	55.9
	MIN	kPa	9.9	37.7
Standard water connectors			1/2"	1/2"
Standard water content in the heat exchanger		l	2.0	4.0
Number of fans			1	2
Power supply connector		V-f-Hz	230 - 1 - 50	230 - 1 - 50
Max. input power	MAX	W	25.2	50.4
Max. input current	MAX	A	0.13	0.26
Standard connector for the condensate drain pipe			16	16
Sound power⁽³⁾	MAX	dB(A)	52	54
	MED	dB(A)	44	46
	MIN	dB(A)	36	38
Sound pressure⁽⁴⁾	MAX	dB(A)	43	43
	MED	dB(A)	35	35
	MIN	dB(A)	27	27

⁽¹⁾ Cooling capacity measurements are carried out in accordance with the EUROVENT 6/3 norm:

- water inlet temperature: 7 °C,
- water outlet temperature: 12 °C,
- room air temperature: 27 °C,
- room air relative humidity: 47 %.

⁽²⁾ Heating capacity measurements are carried out in accordance with the EN 442 norm:

- water inlet temperature: 75 °C,
- water outlet temperature: 65 °C,
- room air relative humidity: 20 °C.

⁽³⁾ Sound power level measurements are carried out in an anechoic room with reflecting floor, with a volume of 109 m³, in accordance with the ISO 3745 standard.

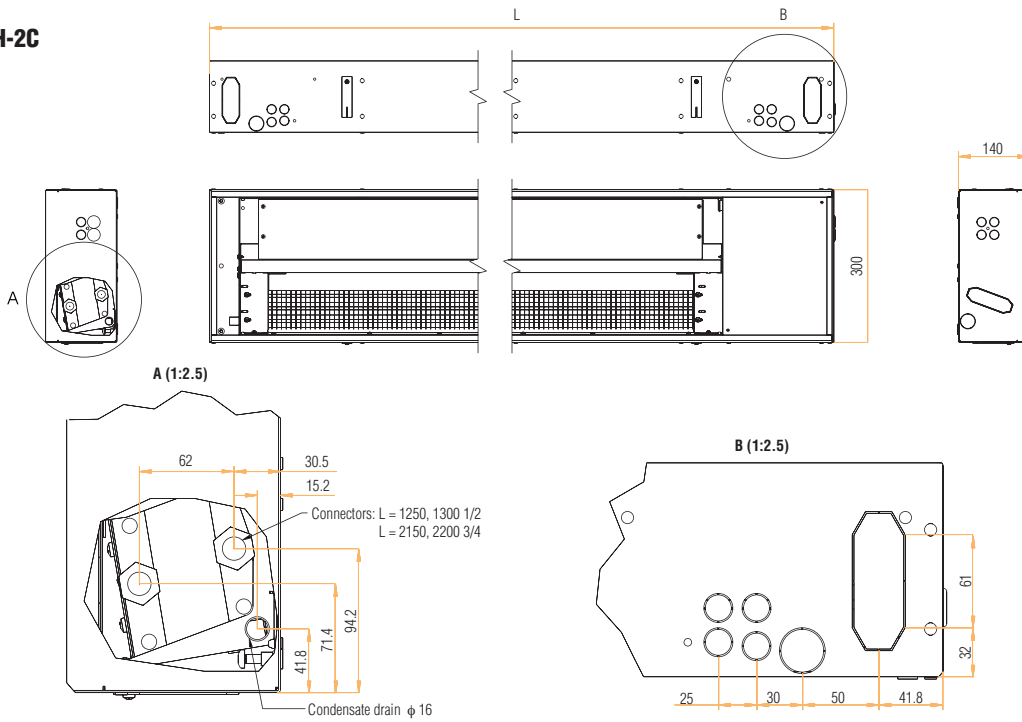
⁽⁴⁾ The sound pressure measurements are carried out in an anechoic room, at the microphone distance of 1 m and at the angle of 45° above the floor convector.

TKH floor convector size				
TKH-4C/60-130x40x18/1/ TKH4C/60-220x40x18/2				
Total cooling capacity⁽⁵⁾	MAX	W	1771	3185
	MED	W	1602	2811
	MIN	W	1275	2320
Sensible cooling capacity⁽⁵⁾	MAX	W	1428	2568
	MED	W	1231	2162
	MIN	W	983	1705

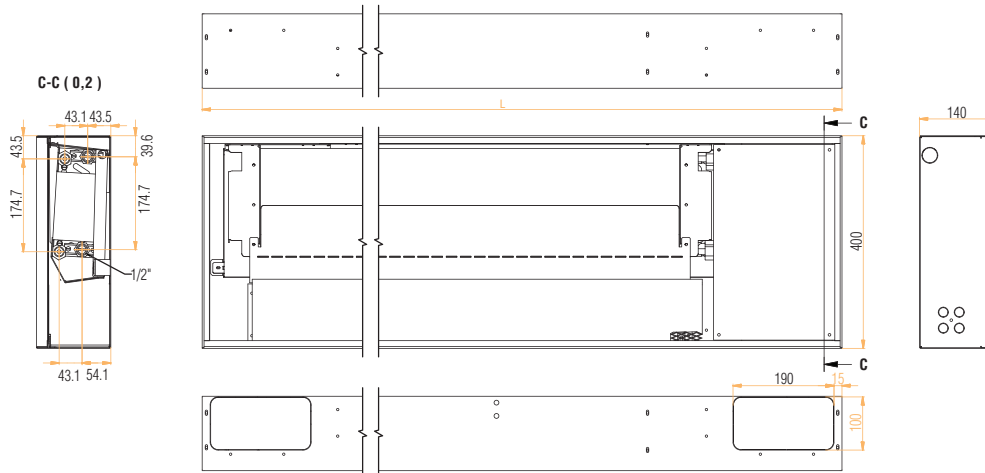
- ⁽⁵⁾ - water flow: 360 kg/h,
 - water inlet temperature: 7 °C,
 - room air temperature: 27 °C,
 - room air relative humidity: 47 %.

Cooling and Heating Floor Convector TKH

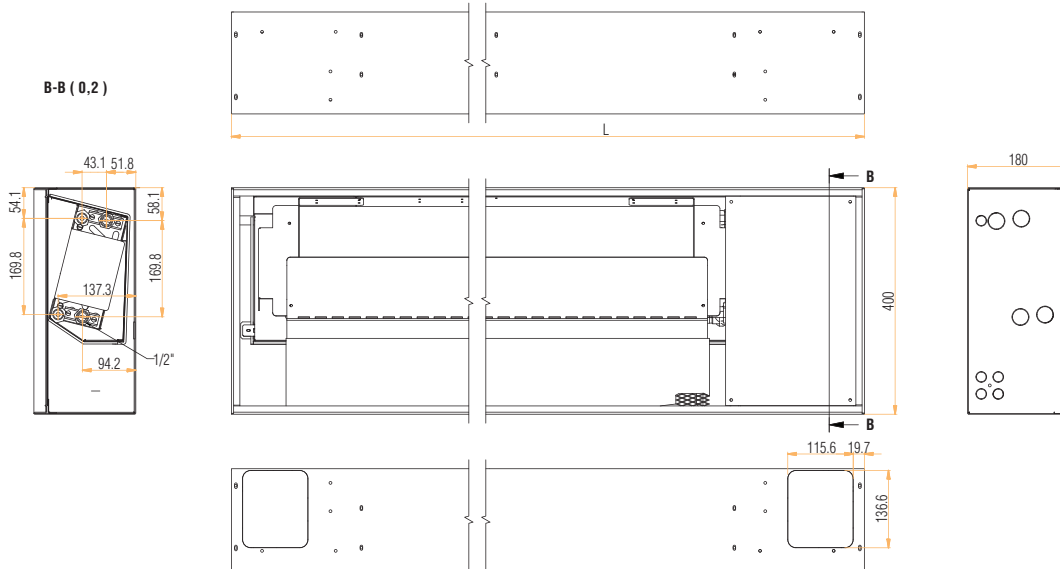
TKH-2C



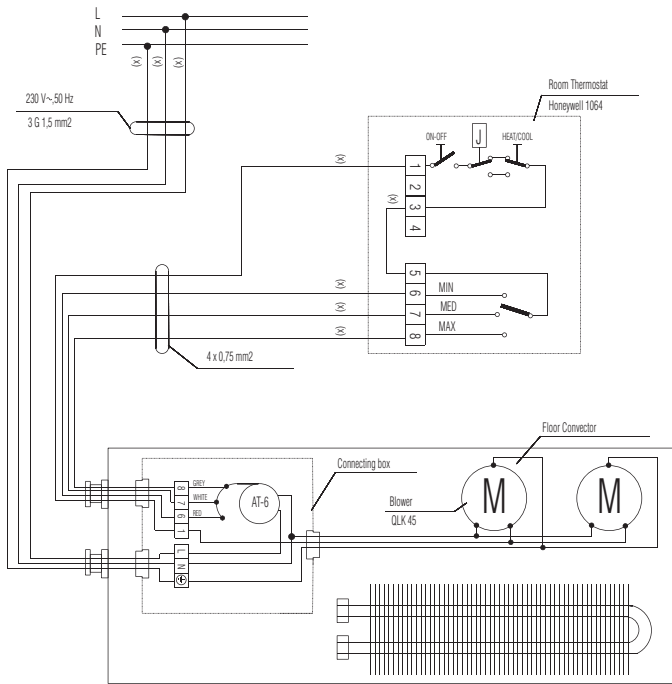
TKH-4C, h=140



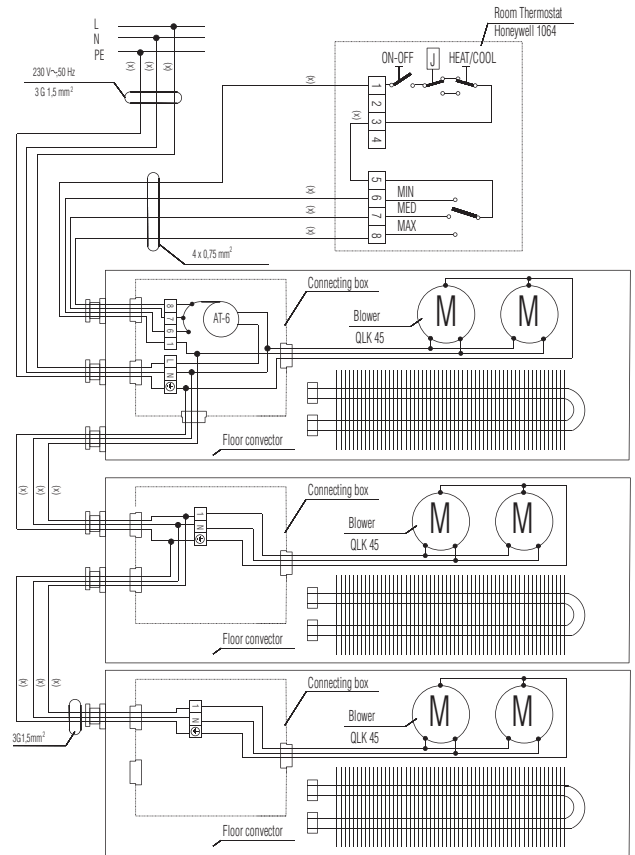
TKH-4C, h=180



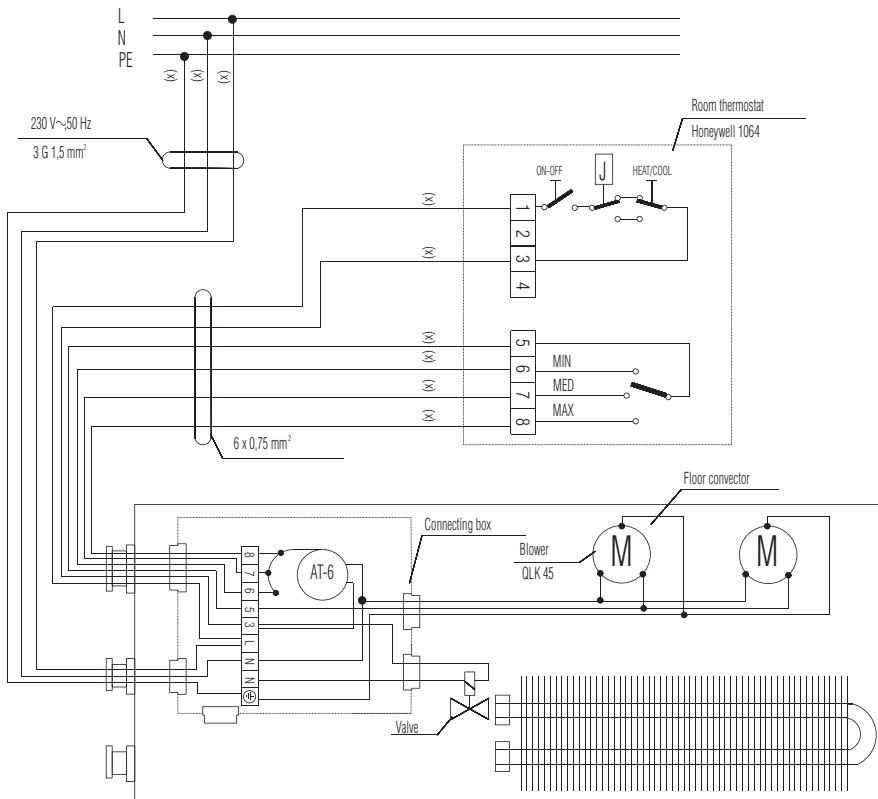
2.5 Floor Convector TKV/08 (TKH)



2.5.x3 Floor Convector TKV/08 (TKH)

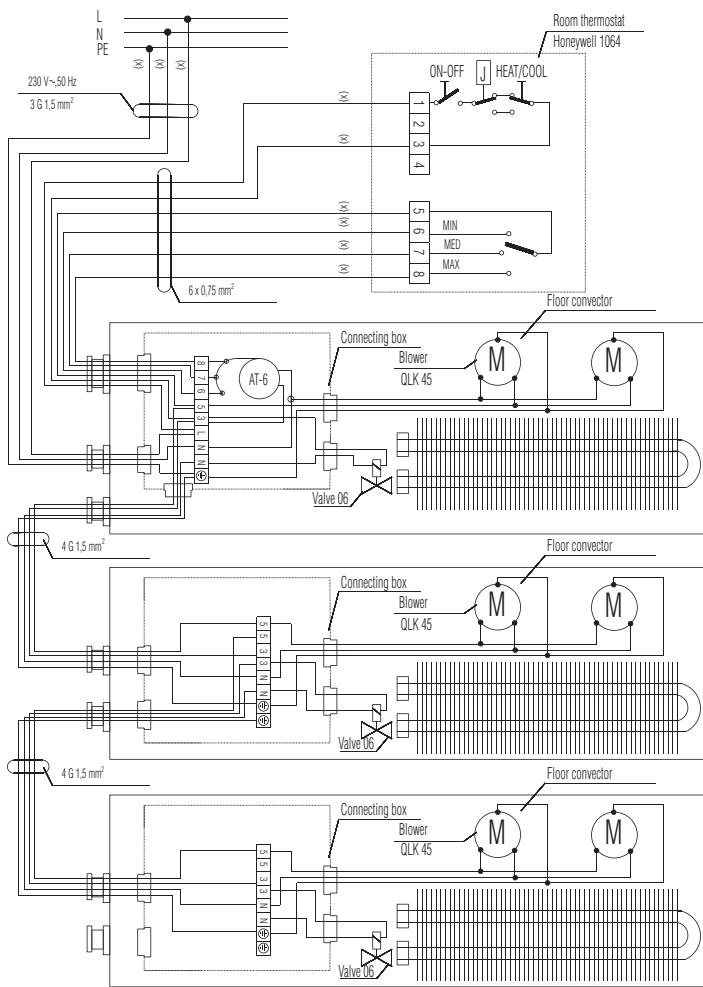


2.6 Floor Convector TKV/08 (TKH) with valve 06 (022 - extraordinarily order)



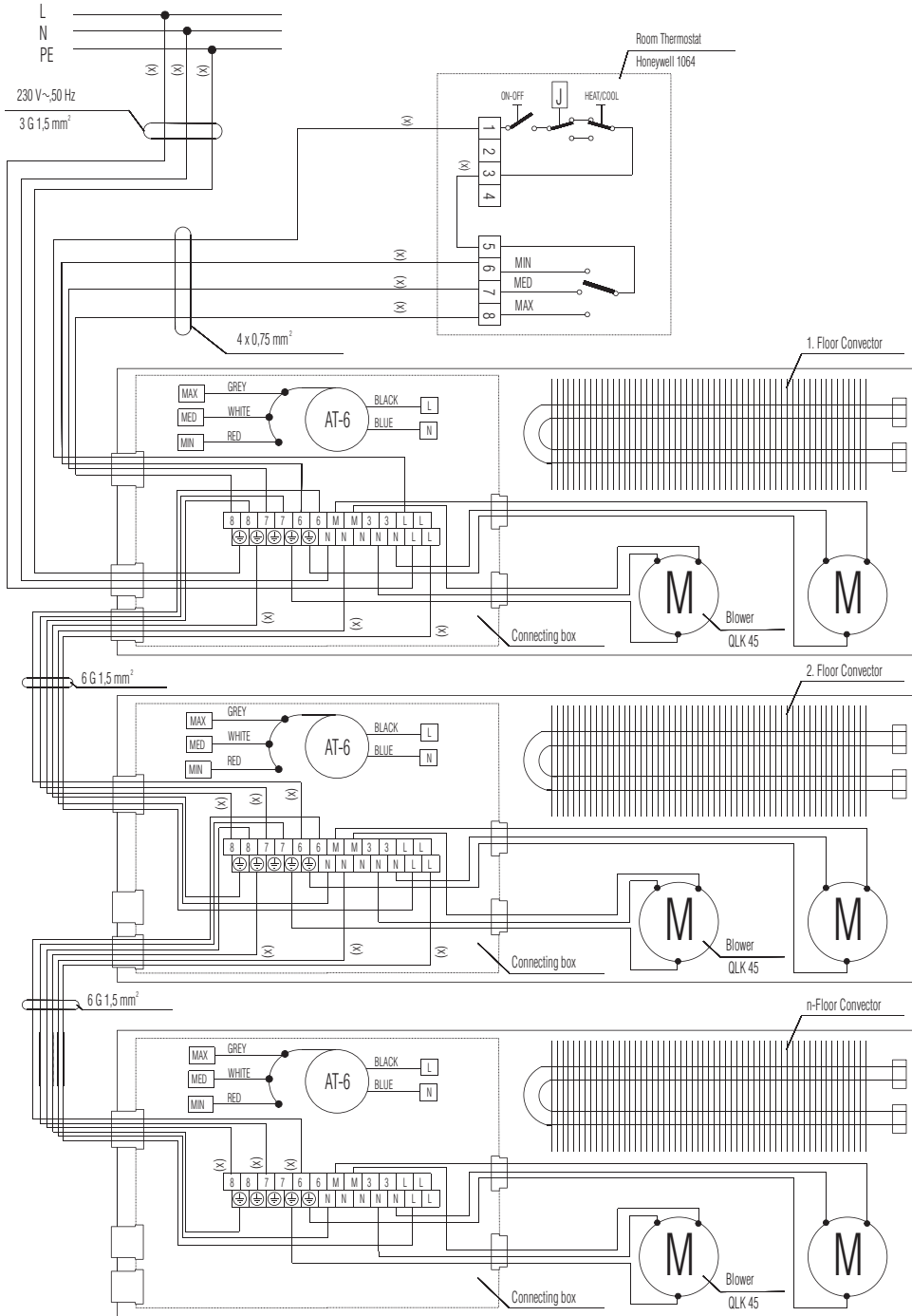
Note: Connections marked with (x) are to be carried out by customer.

2.6.x3 Floor Convectork TKV/08 (TKH) with valve 06 (022 - extraordinarily order)



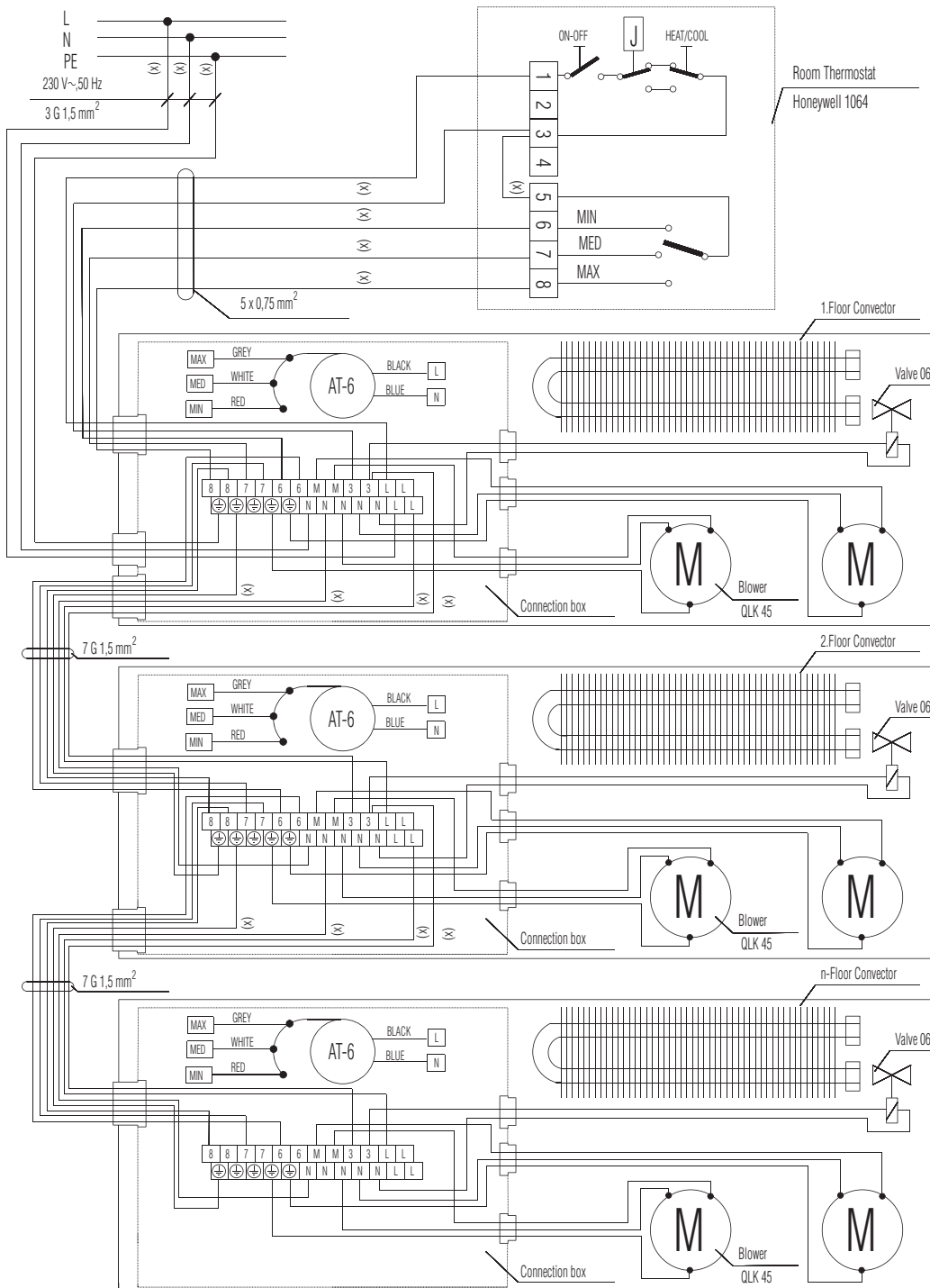
Note: Connections marked with (x) are to be carried out by customer.

2.7 Floor Convactor TKV/08 (TKH) + Accessory 09R



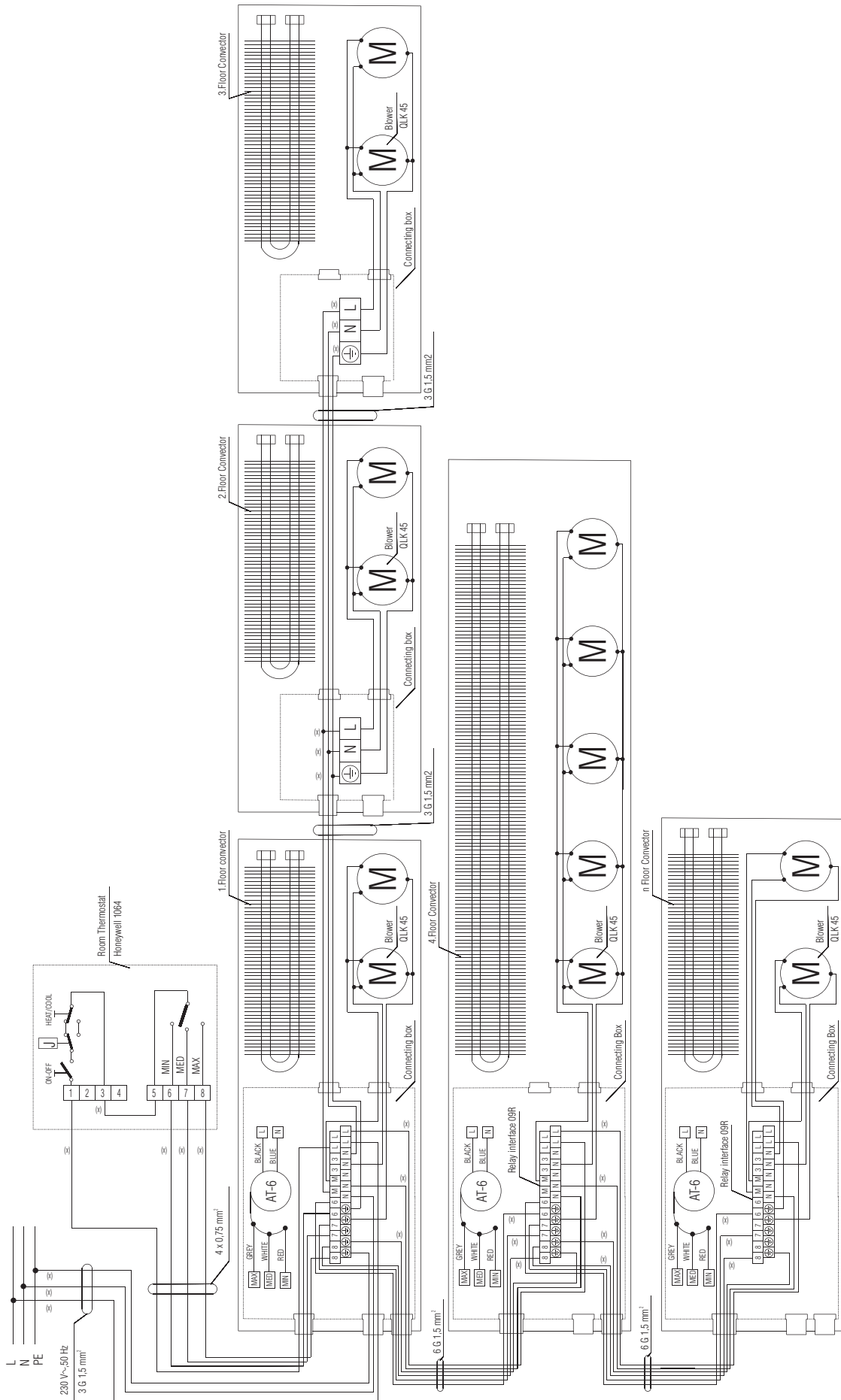
Note: Connections marked with (x) are to be carried out by customer.

2.8 Floor Convactor TKV/08 (TKH) + Accessory 09R and valve 06 (022 - extraordinarily order)



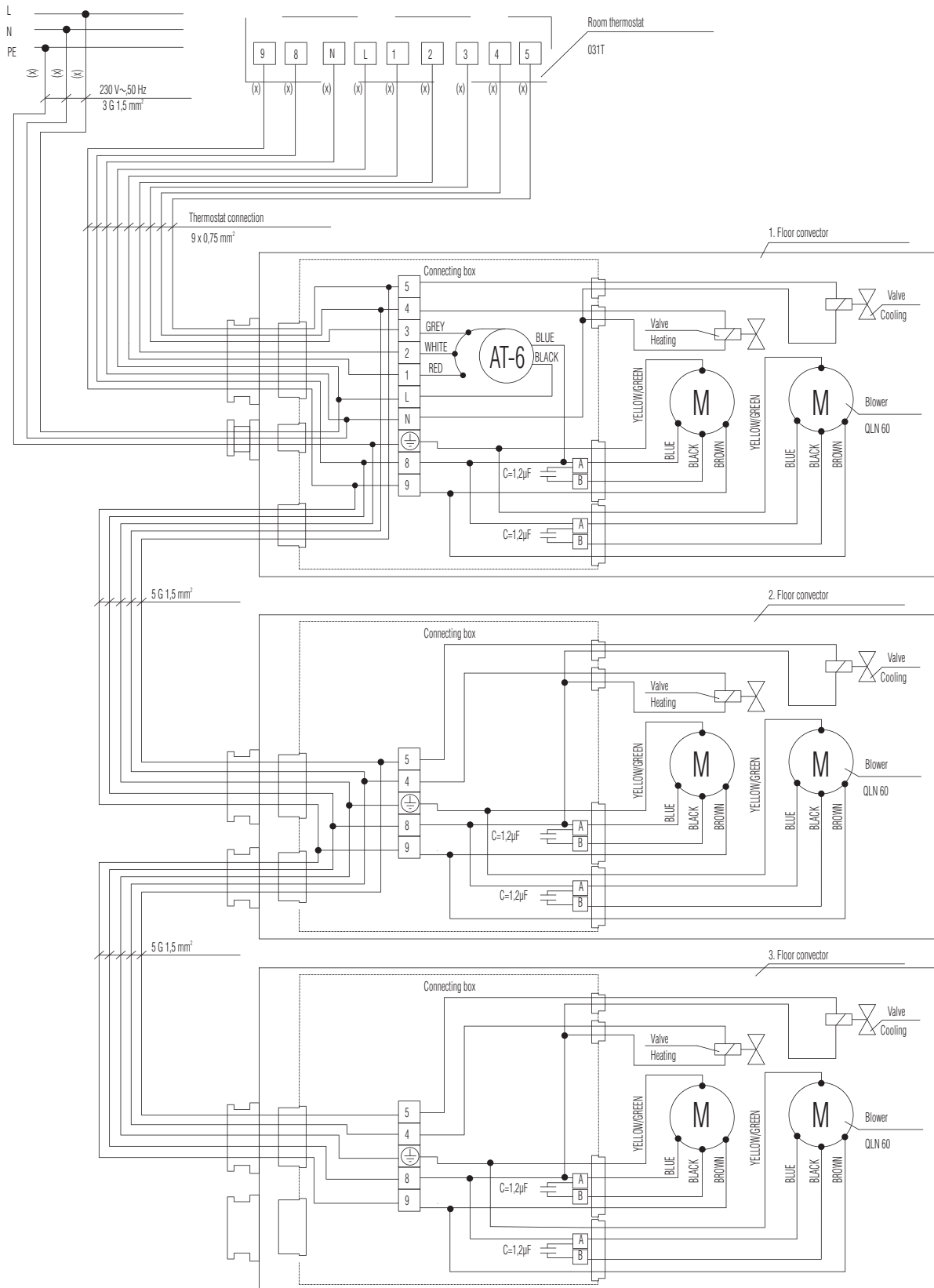
Note: Connections marked with (x) are to be carried out by customer.

3.0 Floor Convactor TKV/08 (TKH)



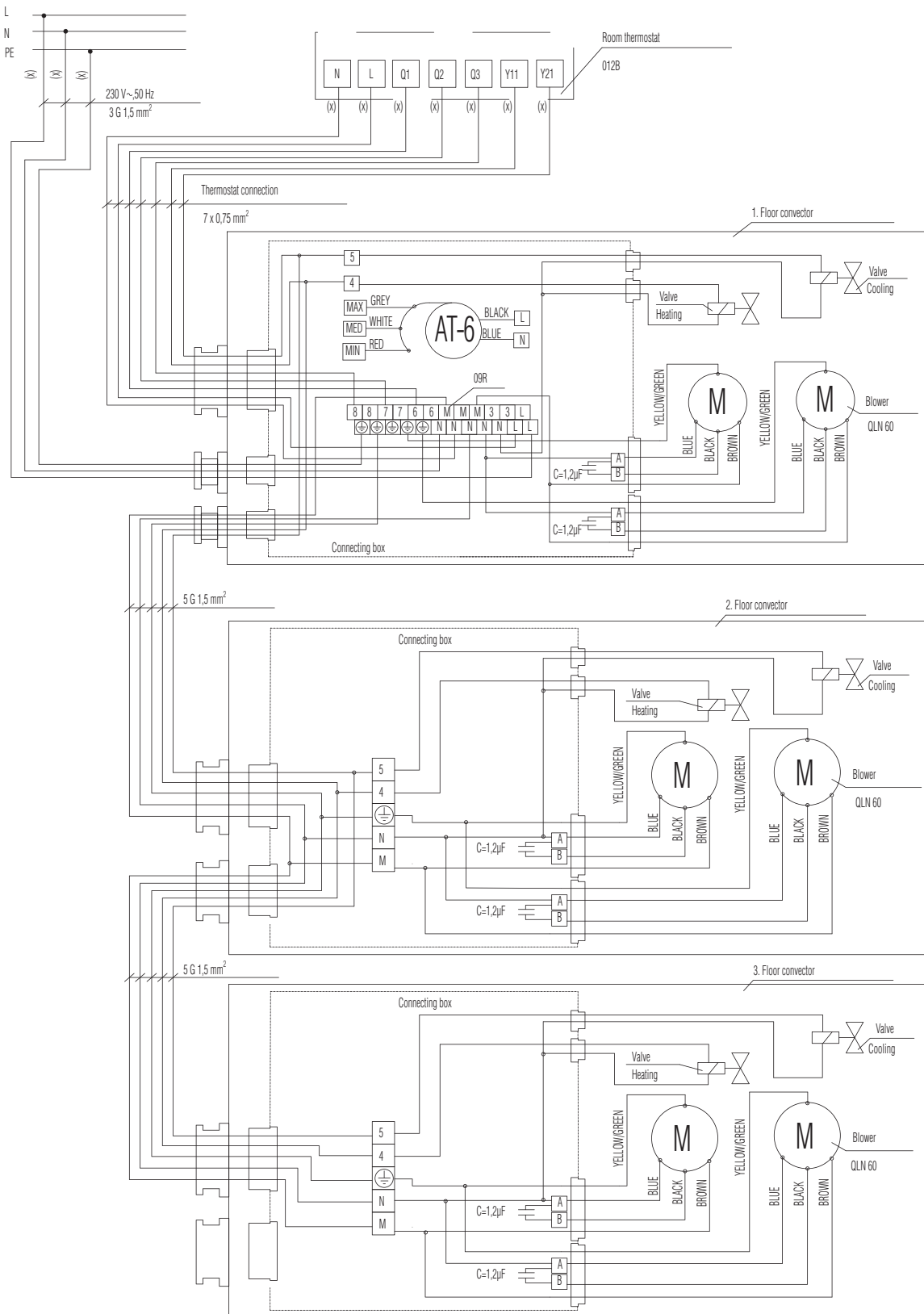
Note: Connections marked with (x) are to be carried out by customer.

5.2. Floor convector TKH-4C -4 pipe system-thermostat 031T.



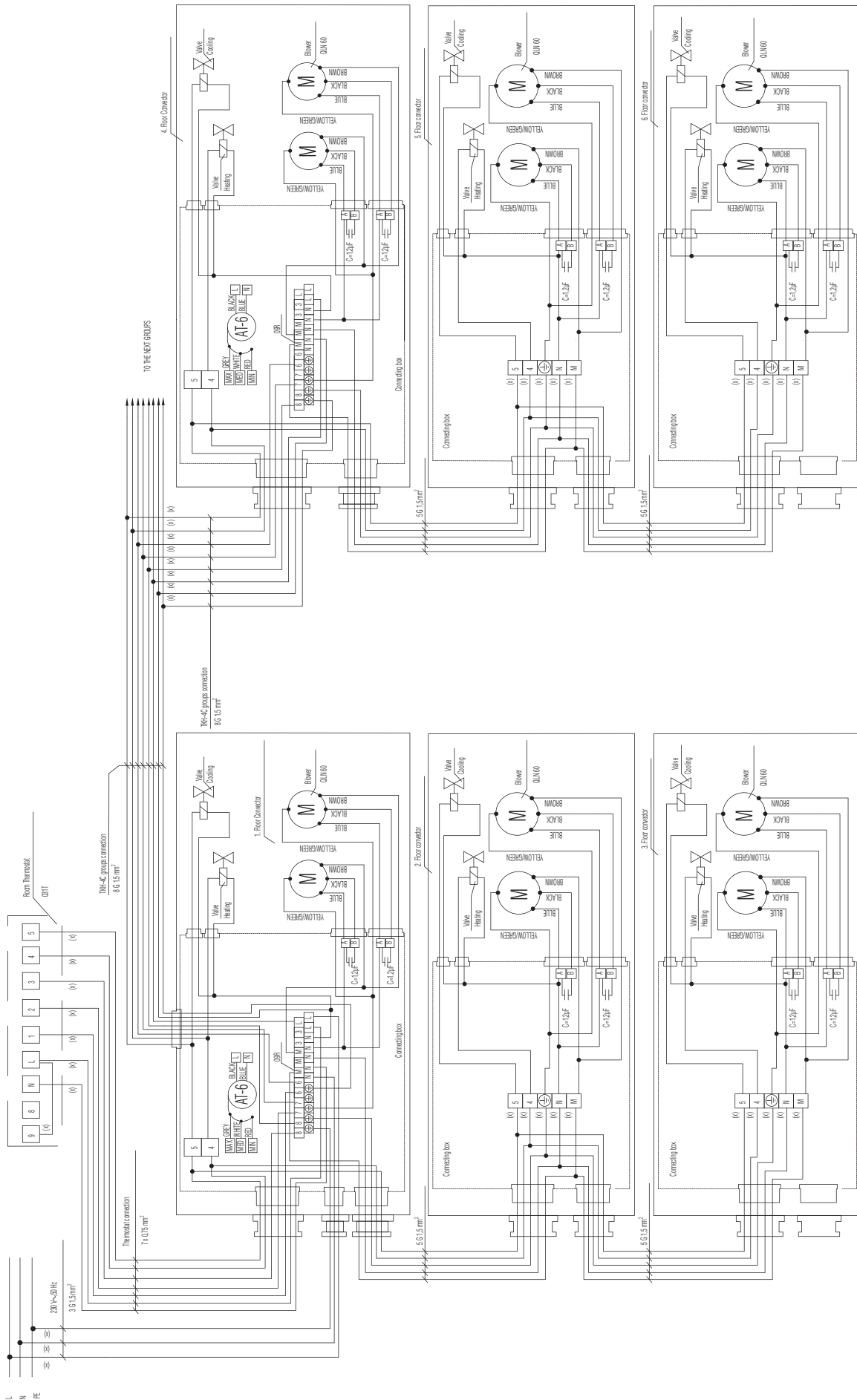
Note: Connections marked with (x) are to be carried out by customer.

5.4. Floor convector TKH-4C -4 pipe system-thermostat 012B-09R.



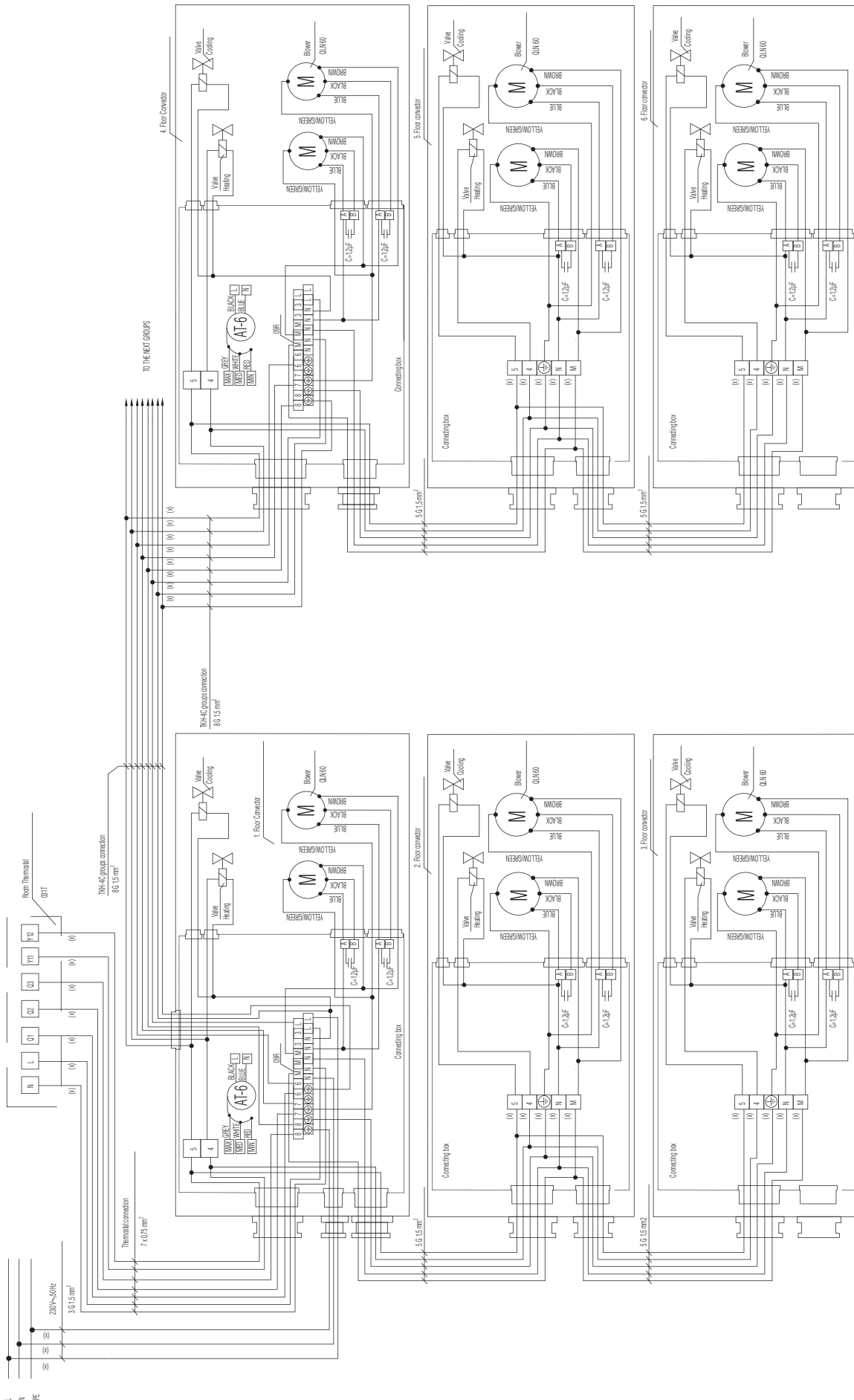
Note: Connections marked with (x) are to be carried out by customer.

6.2. Floor Convactor TKH-4C, 4-pipe system - Thermostat 031T + 09R.



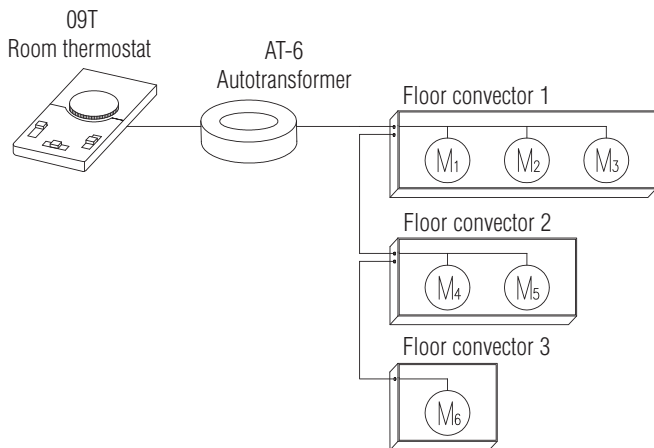
Note: Connections marked with (x) are to be carried out by customer.

6.4. Floor convector TKH-4C, 4-pipe system - thermostat 012B + 09R.



Note: Connections marked with (x) are to be carried out by customer.

Up to six motors may be controlled with a single thermostat (09T) and one autotransformer (AT-6). Only whole connectors may be controlled!



Example:

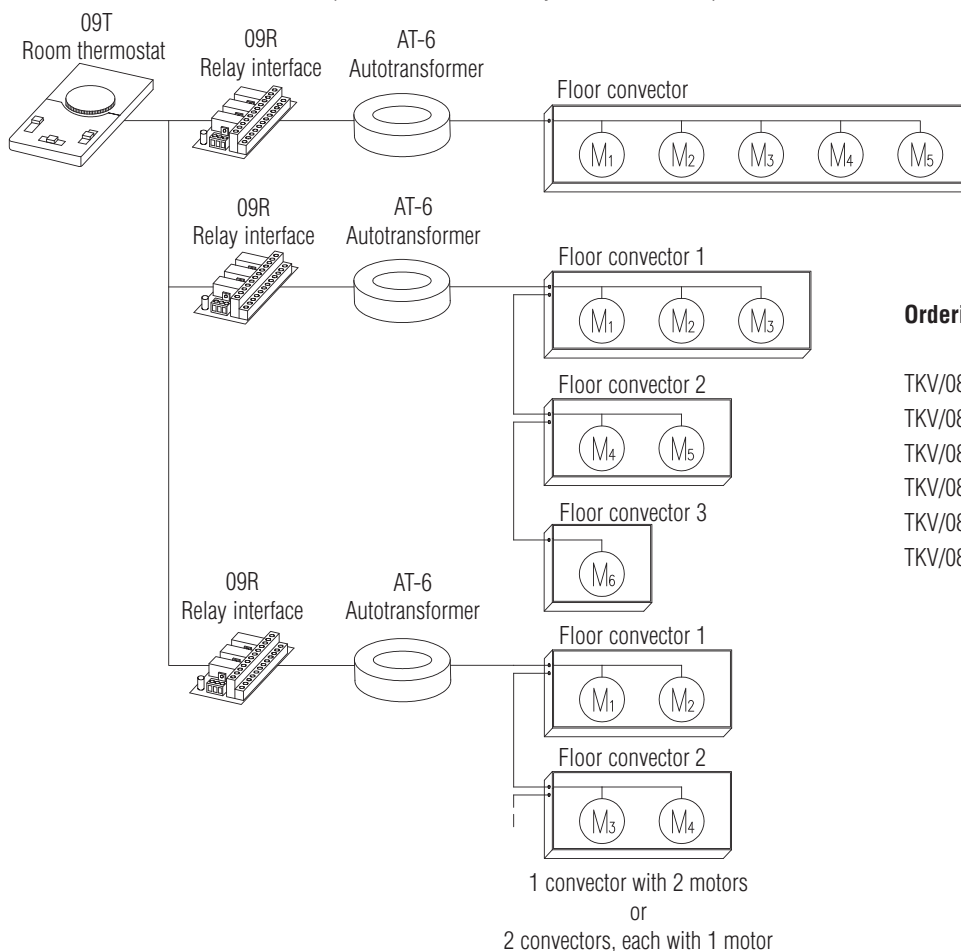
- 1 convector - 5 motors
- 2 convectors - 3 motors
- 3 convectors - 2 motors
- 6 convectors - 1 motor
- other combinations

Ordering example:

- TKV/08 - XXXXXXXX/3/AT - 6, 09T, ...
- TKV/08 - XXXXXXXX/2/ ...
- TKV/08 - XXXXXXXX/3/ ...

If more convectors need to be controlled with a single thermostat and there are more than six motors involved, an additional relay interface 09R is required. An 09R is also needed in cases where there is a second thermostat or a CNS (central control system) with control ports for ventilation fan speed in 230V AC valves.

The number of autotransformers must be equal to the number of relay interfaces, while up to six motors can still be controlled with a single AT-6!



Ordering example:

- TKV/08 - XXXXXXXX/6/AT - 6, 09T, 09R, ...
- TKV/08 - XXXXXXXX/3/AT - 6, 09T, 09R, ...
- TKV/08 - XXXXXXXX/2/ ...
- TKV/08 - XXXXXXXX/1/ ...
- TKV/08 - XXXXXXXX/2/AT - 6, 09T, 09R, ...
- TKV/08 - XXXXXXXX/2/ ...

Note: additions AT-6 and 09R are built in convector electric - connection box

Floor Convectors TKV/08-S

Note: Connection diagrams for floor convectors TKV/08-S for humid areas with forced convection shall be made for each project separately.

CODE	CONTROL ACCESSORIES
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Water side control (control of the warm water flow rate into the convector)

01	Thermostat valve R1/2", R3/4", straight, without a thermostat head
02	Thermostat valve R1/2", R3/4", angular, without a thermostat head
03	Shut-off cock R1/2", R3/4", straight
04	Shut-off cock R1/2", R3/4", angular
05	Thermostat head with a remote surface-mounted sensor (up to 15 m, standard 2 m). It serves to open and close the thermostat valve without a thermostat head.
06	Two-way ON/OFF stop valve with an electric-thermal head.
022	Three - way valve (Extraordinarily order. Before order always consultate with the expert).
044-4C	Three-way two-position valves (4-Pipe) with four connections, operated by electric-thermal drives with on-off control.





Air side control (fan operation control)

09T	Room thermostat for surface mounting with a three-stage speed setting switch (MIN-MED-MAX), ON/OFF switch and HEATING/COOLING switch.
09R	Relay interface designed to connect several convectors to a single thermostat.
09S	Fan speed controller for the TKV/08-S
AT-6	Autotransformer
012B	Room thermostat
031T	Room thermostat

CODE	CORNER DESIGNS
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010	Floor convector corner design
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CODE	TREAD-ON GRILLE
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011	Standard tread-on grille design: Longitudinal fixed grille - profile		Anodised: Standard: D - anodised in the natural aluminium colour (C0) (included in the basic design price) On purchaser's request: B -black (C35), C - brass colour (C4)
	Available section surface: 70%		
014	Rolo-up grille - profile		Anodised: D - natural aluminium colour (C0) On purchaser's request: B -black (C35), C - brass colour (C4)
	Available section surface: 77%		
014W	Wooden roll-up grille - profile		Wood type: 1 - oak, 2 - ash, 3 - walnut, 4 - mahogany
	Available section surface: 67%		
014SS	Rollo-up grille - profile		Stainless steel (polished off only on the top side)

CODE	HOUSING
------	---------

017	Housing thermal insulation
018	Protection cover (protection of the convector against soiling or damaging during installation and up to its commissioning)
019	Convector level adjusting screws
020	Circular convector shape
021	Aluminium frame (lenght and width of housing increase for 12 mm)
028	Level adjusting and support legs (convector length 130)
029	Level adjusting and support legs (convector length 220)

01 Thermostat valve R1/2", R3/4", straight, without a thermostat head



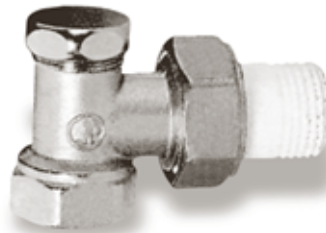
02 Thermostat valve R1/2", R3/4", angular, without a thermostat head



03 Shut-off cock R1/2", R3/4", straight



04 Shut-off cock R1/2", R3/4", angular



Valves and Shut-off Cocks

Valves 01, 02, 03 and 04 are suitable for the installation onto steel tubes. On purchaser's request, valves suitable for the installation on copper tubes are available. Such a request shall be specifically indicated in the order.

Appropriate Control Accessories

- for natural convection floor convectors TK/08: accessories 01 to 05.
- for forced convection floor convectors TKV/08: accessories 01 to 06 (022) and 09T, 09R.
- for floor convectors for humid conditions with natural convection TKV/08-S: accessories 01 to 05 and 09T, 09S. For floor convectors for forced conditions with natural convection TK/08-S: accessories 01 to 05.
- for cooling and heating floor fan convectors TKH: accessories 01 to 06 and 09T, 09R.

05 Thermostat head with a remote surface mounted sensor (up to 15 m), standard 2 m



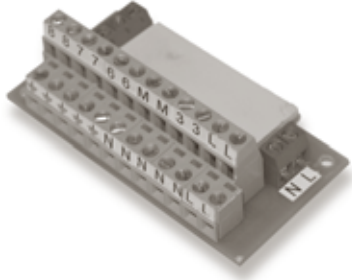
06 The two-position line valve R1/2", R3/4" with two connections is easy to connect to the piping network. The valve is operated by an electric-thermal drive with "ON-OFF" control.



012B Room thermostat
 - automatic heating/cooling switching
 - fan speed selection switch (MIN-MED-MAX)
 - for 4-pipe systems
 - wall installation



09R Relay interface, designed to control several (2 or more) convectors applying a single thermostat.
Installation: into the electric distribution box in the convector.



09S This fan speed controller for the TKV08-S is used for 3-step regulation of 12V fans, mounted into the TKV08-S, in connection with the 09T thermostat. We can connect max. 6 fans to one 09S, which must be installed in a dry place (outside the room with increased humidity).



09T Room thermostat for surface mounting with a three-stage speed setting switch (MIN-MED-MAX), ON/OFF switch and HEATING/COOLING switch.

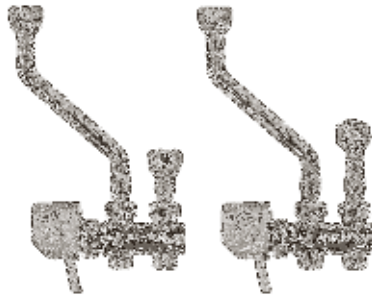


AT-6 Autotransformer AT-6 is designed to control 1 or 6 fans. Connections with other components are shown in connection schemes, which are enclosed beside instructions on page 93



Voltage by different speeds of ventilator:
Min speed – 120 V
Med speed – 150 V
Max speed – 200 V

044-4C Three-way valve (4-Pipe)(044)
Three-way two-position valves with four connections, operated by electric-thermal drives with on-off control



031T Digital electronic room thermostat
- display of room temperature, set points and parameters
- ON/OFF switch
- fan speed selection switch
- manual or automatic fan speed switching
- mode selection key: heating, cooling, automatic switching heating to cooling and vice versa
- for 2- or 4-pipe systems
- wall installation
- wall installation



TYPES AND COLOURS OF TREAD-ON GRILLES

Anodising finishes of longitudinal tread-on grilles

011D - longitudinal fixed grille, single-slant profile section, 
anodised in natural aluminium colour - standard



011B - longitudinal fixed grille, single-slant profile section, 
anodised in black colour

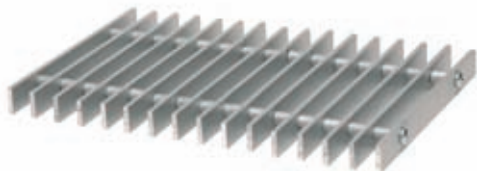


011C - longitudinal fixed grille, single-slant profile section, 
anodised in brass colour - standard

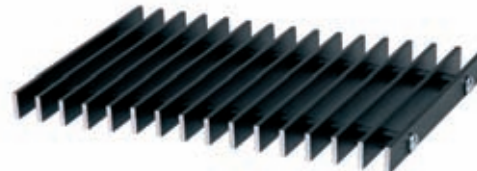


Stainless steel roll-up grilles and anodising finishes of aluminium roll-up grilles

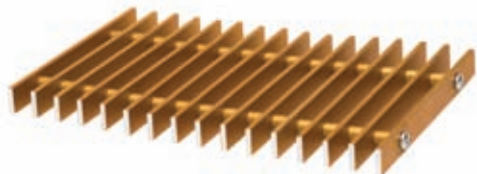
014D - roll-up grille, flat profile section, 
anodised in natural aluminium colour



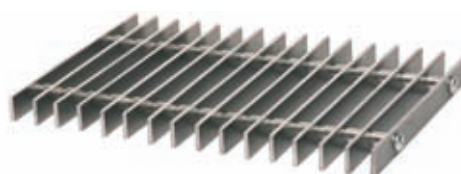
014B - roll-up grille, flat profile section, 
anodised in black colour



014C - roll-up grille, flat profile section, 
anodised in brass colour



014SS - roll-up grille, flat profile section, 
stainless steel, polished off only on the top side

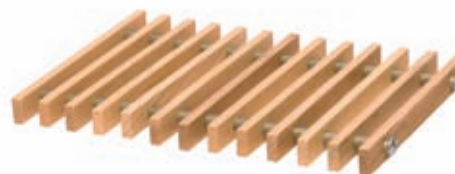


Wooden roll-up grilles (profile 014W)

1 - oak wood



2 - ash wood



3 - walnut wood

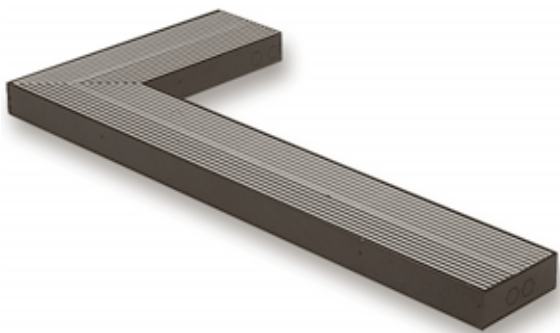


4 - mahogany

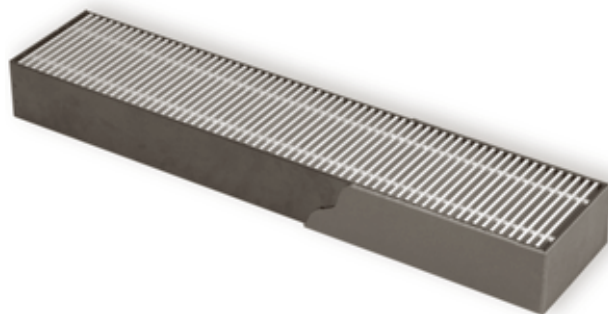


Housing - accessories

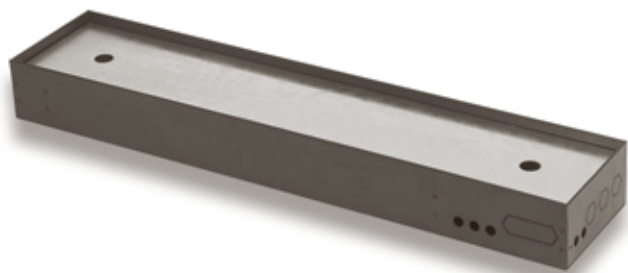
010 Corner design



017 Housing thermal insulation



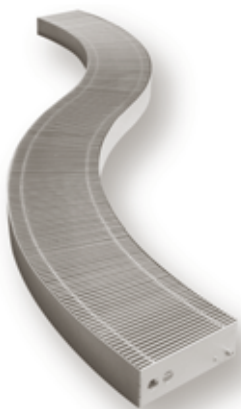
018 Protection cover



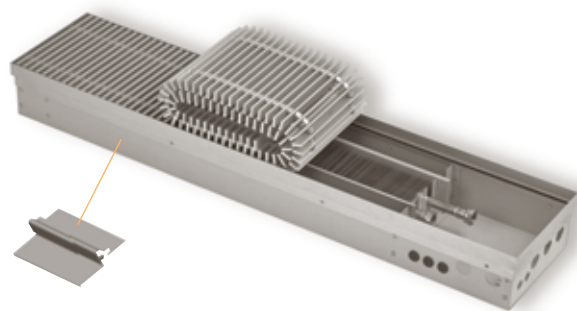
019 Convector level adjusting screws



020 Rounded convector shape (after draft)



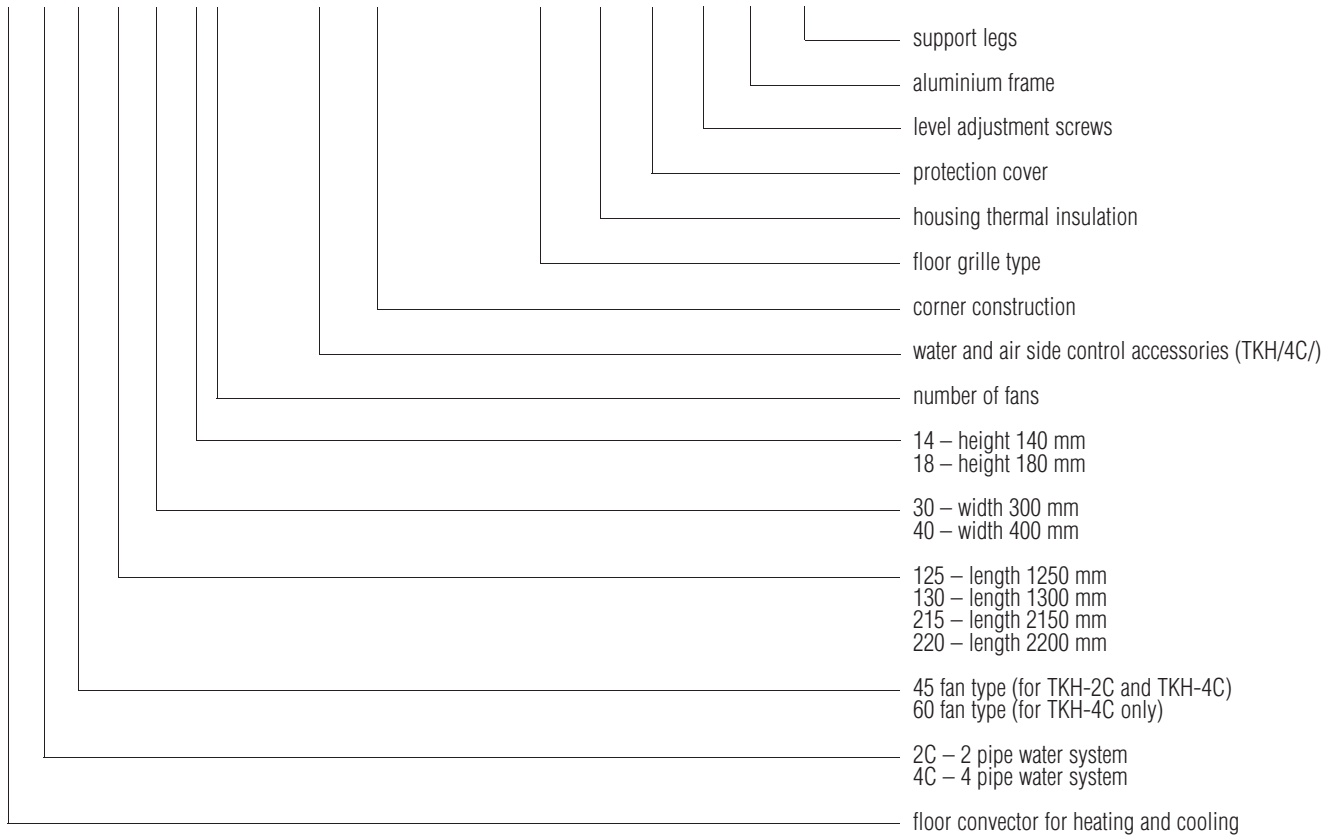
021 Aluminium frame



028, 029 Level adjusting and support legs (for TKH-4C only)



Note: when ordering accessory 021, length and width of housing increase for 12 mm

Ordering Key:
TKH-2C/45-125x30x14/1/01, ..., 031T, 010, 011D, ..., 014W4, 017, 018, 019, 021, 028, ..., 029


Note: control accessories for the TKH/2C/ (2 pipe) are equal to the ones for the TKV type, using support legs 028, 029 for false floor installation, total convector height increases for 30 mm.

Instructions for Proper Installation of floor convectors TK/08, TKV/08, TKV/08-S, TK/08-S and TKH

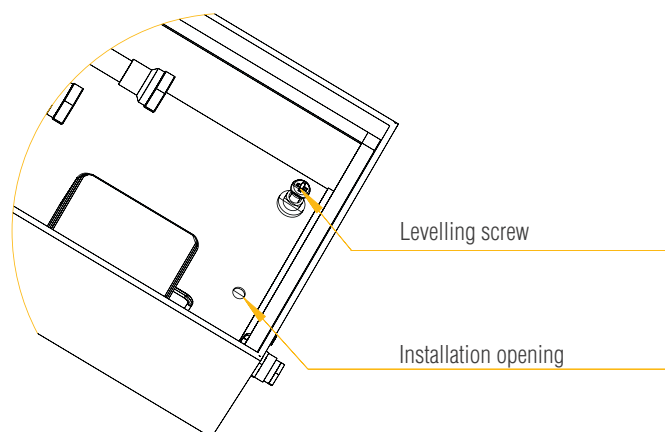


Figure 1

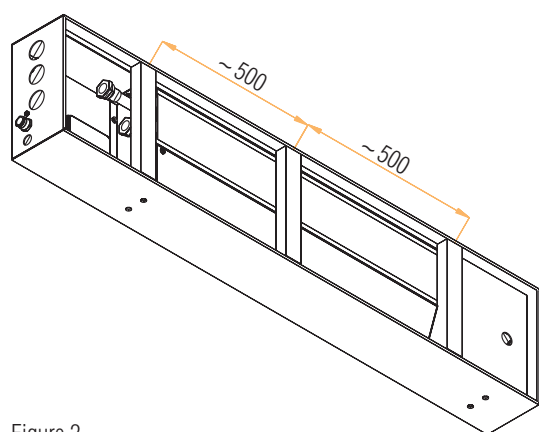


Figure 2

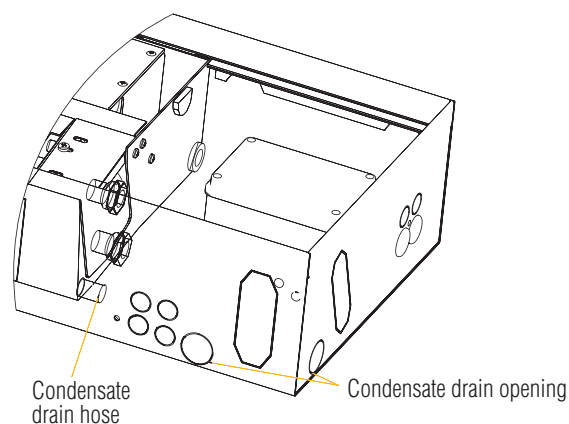


Figure 3

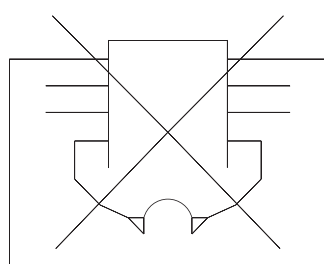


Figure 4

- Place the floor convector to prepared flat surface.
- The distance between convector and wall can be as low as possible, however, it should not exceed 400 mm. Condensation elimination on cold surfaces efficiency decreases with the distance between convector and wall. Convector should be installed in such way, that air discharge should be oriented into the room (TKH convector), or into the window (other convector types).
- In case of non flat surfaces, application of leveling screws is recommended (accessory 019). When the convector is adjusted to the correct position and lined to desired height, fix it with the screw (figure 1). Installation of thermal and noise insulation layer is recommended between the convector and concrete. Convector can be supplied with housing thermal insulation (accessory 017 - elastalon $s = 5$ mm). When the housing of the floor convector is placed directly to the concrete surface, make sure that contact is distributed along complete surface of the convector, otherwise increased noise level can apply (forced convection only). When installing in concrete, make sure to insert spacers, which serve to prevent housing deformations (figure 2). In order to prevent the grille from deformation and dirt, remove it before the installation and place protection cover (accessory 018) to its place (figure 5). Retainers are not attached to the convector. During the installation, the protective cover does not features as a retainer, but only protects the convector against impurities and damages of the internal ScanCom. Remove the cover and spacers, when convector is ready for operation. Condensate elimination is performed with $\phi 16$ mm socket on the lower side of the tray within the housing, hose can be leaded from the convector on the traverse or cross side (figure 3).
- Control accessories on the water side (01, 02, 03, 04, 05, 06) are attached to the convector upon delivery and are not installed to the heat exchanger. When connecting straight valves and shut-off cocks, nut should be counter-tightened (figure 6). When tightening angle valves and shut-off cocks, counter-torque should be applied with threaded rod (1/2" thread) (figure 7). If not, attached unit can be removed from the heat exchanger, causing damage on the teflon protected joint. It can cause water leakage in the joint. Standard valves and shut-off cocks are suitable for use with steel pipes. If copper pipes are to be used, it has to be specified upon ordering. In case of installation of accessory 05 - thermostat head with a remote surface mounted sensor, it has to be installed before applying concrete. Water tightness of the installation shall be verified as well.
- When applying concrete to the space around the convector, consider height difference for the final layer (carpet, laminate floor, ...).
- Remove the cover and spacers and cover the housing with the grille.
- Heater should not be installed directly under the power socket.
- Air flow through convector depends on the ventilation fan rotation speed, which can be controlled by the surface mounted thermostat with three-stage fan speed setting switch (MIN - MED - MAX), ON/OFF switch and HEATING/COOLING switch. Surface mounted thermostat should be mounted in the same room as the convector, on the same height as other switches. Convector should be connected to the thermostat, according to applicable Connection Diagram.

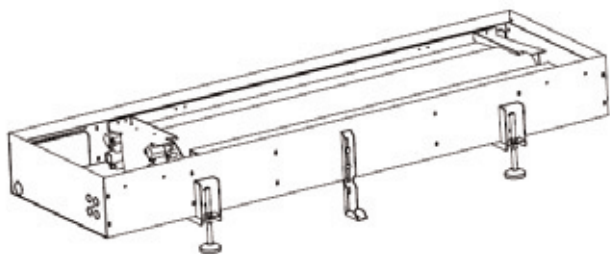


Figure 5

- In case of false floor installation, accessory 028, 029 is available (leveling and support legs). Legs are mounted in special holders, in pop nut M10. The optimal convector height is achieved by regulating the leg with a screw and finally fixing it with a spanner size 15. (Figure 5, 6). Legs can be regulated from 10 mm do 100 mm height.
- When the optimal convector position is achieved, it needs to be fixed with a screw through a fixing profile into the floor. (Figure 6a)

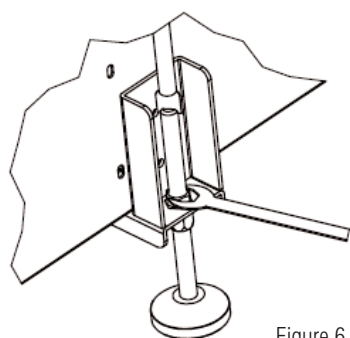
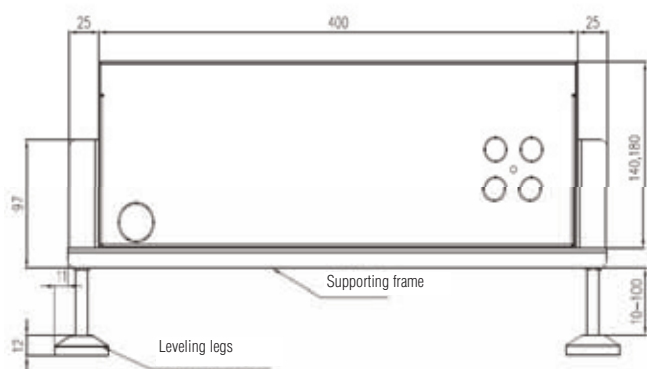


Figure 6

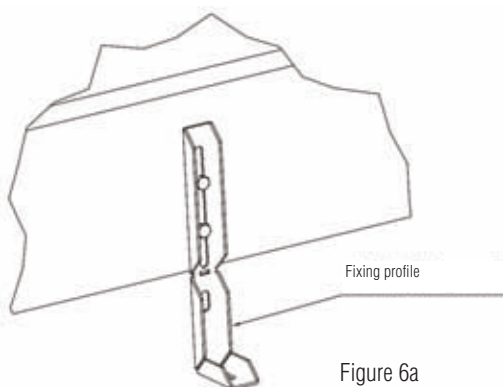


Figure 6a

Instructions for Startup and Operation:

- Make sure the convector interior is clean and dry.
- De-aerate the connected heat exchanger and inspect the piping connections for any leakage.
- Connection to electric mains shall be carried out by a qualified person.
- Check the operation of ventilation fan at all speeds.
- In case of a convector controlled by a room thermostat, set the desired temperature.
- The grille is dimensioned for normal loading, i.e. human weight. If higher loads are anticipated, the convector shall be fitted with an additional "bridge".
- During the operation, upper part of the convector (grille) shall not be covered due to possible overheating. Make sure that air flow is not disturbed (figure 4).
- Check the condensate elimination piping for any leakage (TKV/08-S, TK/08-S and TKH).

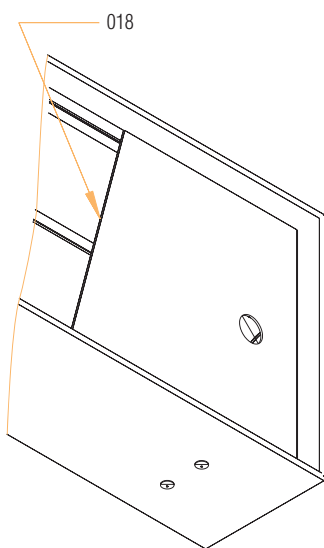


Figure 7

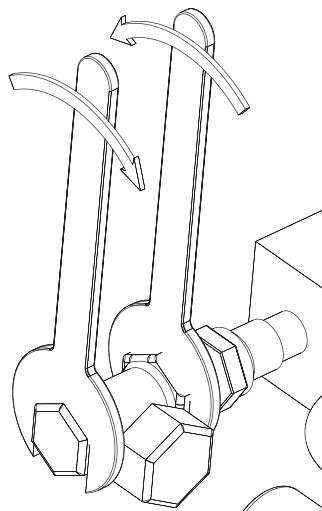


Figure 8

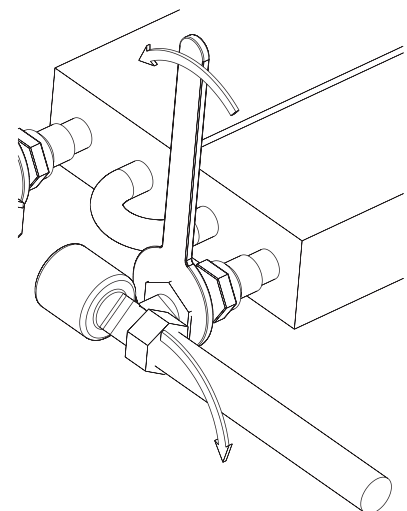


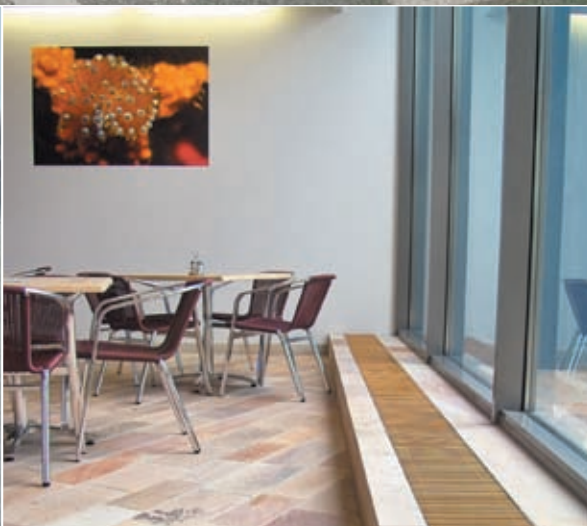
Figure 9

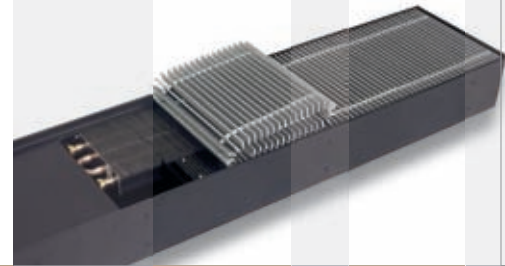
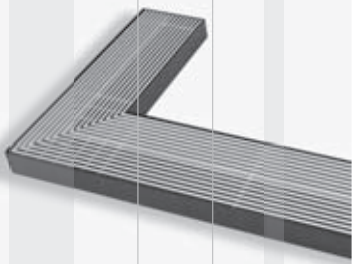
Warning:

- When connecting the piping, make sure not to damage soldered joints on the water heat exchanger connections.
- When connecting floor convectors in permanent installation, a device to separate all phases from the mains shall be provided, with the open contact clearance of 3 mm.
- Any intervention beyond the standard connection is considered an intervention into the device and shall only be attempted with prior approval by the manufacturer.
- In case that water, not caused by condensation enters into forced ventilation floor convector, power supply shall be switched off.
- Floor convectors (except TKV/08-S version) with the fan shall not be installed into very humid areas such as bathrooms, WC, swimming pools.

Maintenance:

- Clean the grille by means of a damp cloth and the detergent, vapor, ...
- Periodically clean the internals of the floor convector with a vacuum cleaner (length of the cleaning interval depends on dust density, - amount of dirt in the room).
- In case of very dirty internals, heat exchanger must be removed, internals cleaned, and clean the heat exchanger with the vapor (to be performed by authorized personnel only).
- Make sure, that condensate elimination hose is clean, otherwise it can cause flowing of water over the collection tray.





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