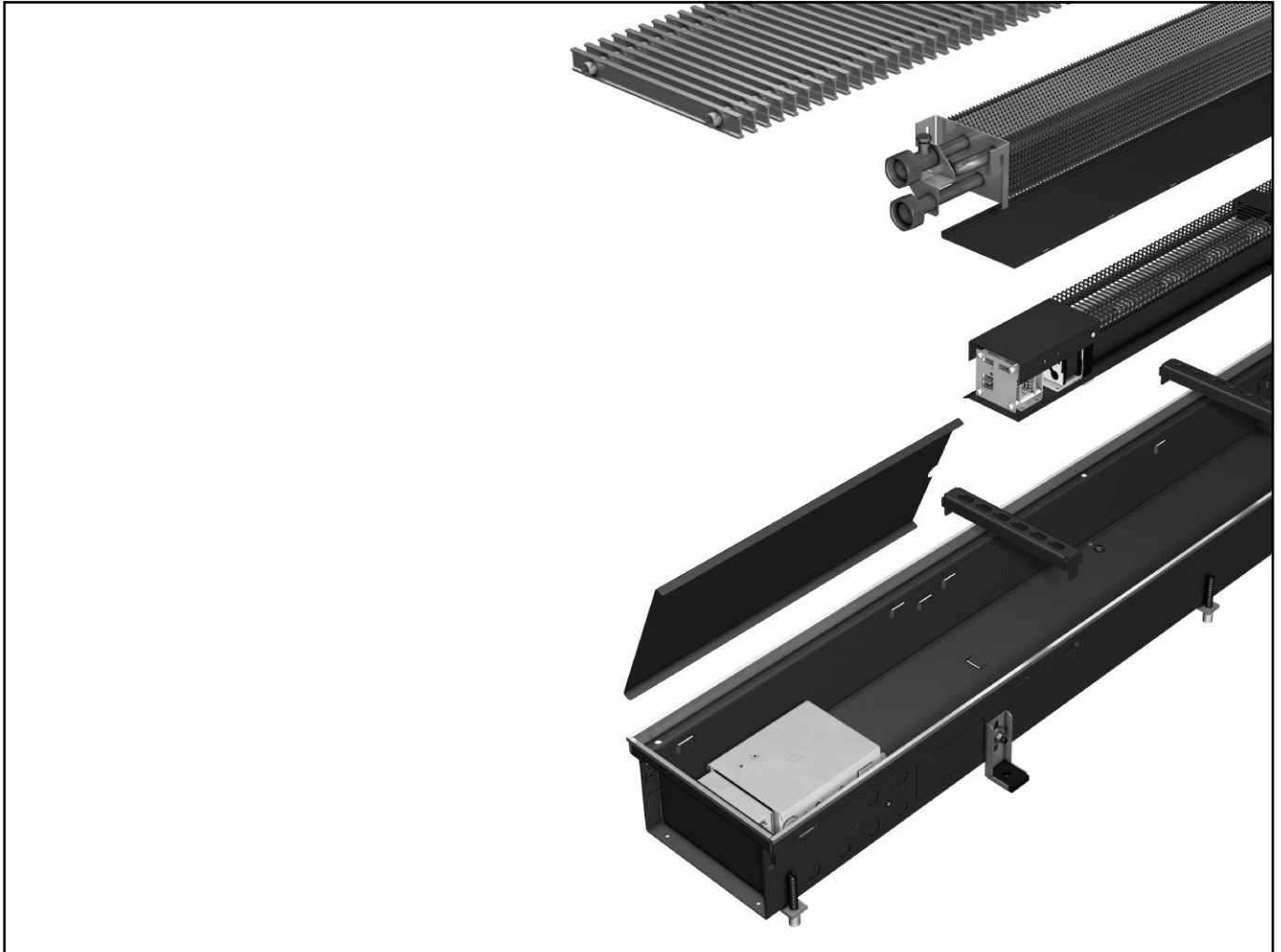


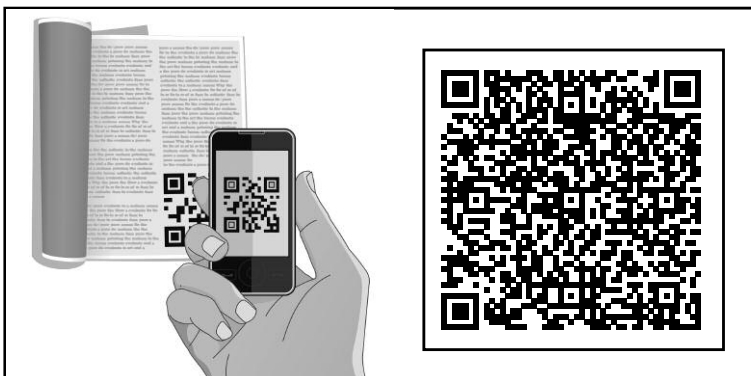
Katherm QK 1.42

Trench heating with EC cross-flow fan



Installation instructions

Keep these instructions in a safe place for future use!



Kampmann.de/installation_manuals

KAMPMAN
Genau mein Klima.

1.42 Katherm QK - Cross-flow fan convection with compact EC motor

Ready-to-install floor duct convectors

Installation instructions

Explanation of symbols:



Caution! Danger!

Non-adherence to this manual can result in serious injury or damage to persons or property.



Danger of electrocution!

Non-adherence to this manual can result in serious injury or damage to persons or property by electrocution.

Please read this manual prior to commencing installation of these units!

All persons involved in the installation, commissioning and use of this product are obliged to pass this manual onto other trades working in parallel or subsequently on this equipment up to and including the end user or operator of the equipment. Please retain this manual until the equipment is finally decommissioned!

Amendments can be made to the content or design of this manual without prior notification!

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1. Correct and proper use

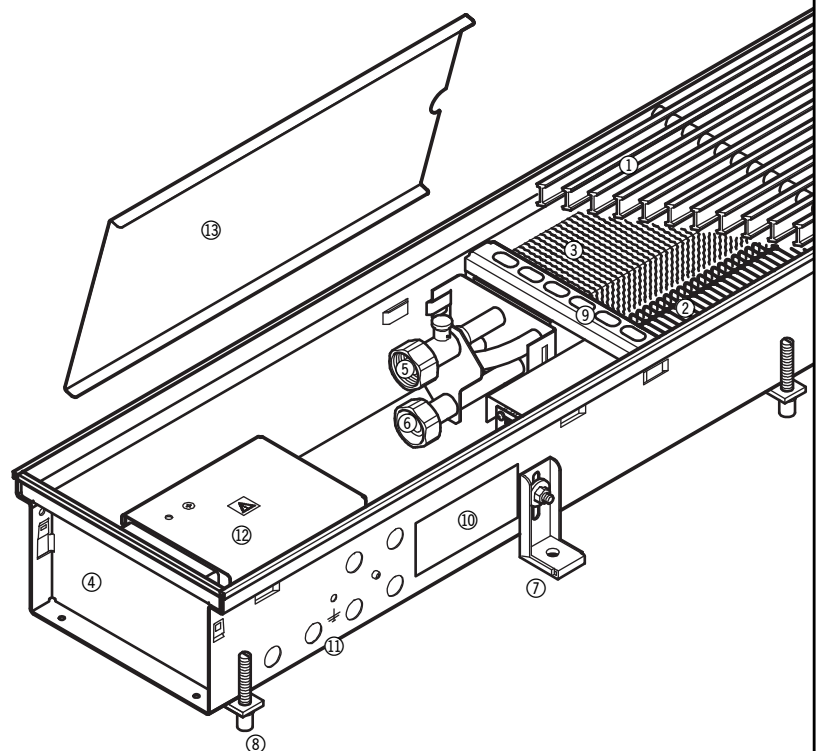
Kampmann *Katherm* QK are manufactured in accordance with the state of the art and recognised safety regulations. The use of these units can nevertheless result in danger to persons or damage to the equipment or other property if they are not installed and operated correctly and properly or are not used correctly.

Katherm QK units are intended solely for use indoors (for instance in residential properties, offices, showrooms etc). They should not be used in damp areas, like swimming pools or outdoors. The units should be prevented from becoming wet or damp during installation. If in doubt, please contact the manufacturer. Any use beyond the aforementioned use shall be deemed to be improper and any damage resulting from this will be the sole responsibility of the operator of the equipment. Correct and proper use also includes adherence to the installation instructions given in manual.

The installation of this product requires technical knowledge of heating, cooling and electronics. This knowledge is generally taught as part of a course in one of the vocational fields listed in section 2 and is not described separately here. Connection faults or modifications can lead to damage to the unit! The manufacturer shall not be liable for any damage due to any faulty connection or/and improper handling.

Katherm QK

- ① Roll-up grille (alternative: linear grille)
- ② Compact EC cross-flow fan
- ③ High-output convector Cu/Al
- ④ Floor duct
- ⑤ Flow connection, 1/2", Eurokonus
- ⑥ Return connection, 1/2", Eurokonus
- ⑦ Height adjustment feet mit sound insulation
- ⑧ Raised floor mounting feet
- ⑨ Supports
- ⑩ Pipe entries - water connection
- ⑪ Cable entries
- ⑫ Connection-ready electrical junction box
- ⑬ Terminal cover



Attention: do not remove supports

Example: *Katherm* QK 207

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Ready-to-install floor duct convectors

Installation instructions



2. Safety information

The installation and assembly, as well as maintenance of electrical equipment should only be performed by a qualified electrician in accordance with VDE guidelines. The units should be wired in accordance with applicable VDE regulations and guidelines issued by the relevant power supply company. Non-adherence to these regulations and the information contained in the installation manual can result in malfunctions with consequential damage and danger to personnel. There is a risk of fatal injury if the wires are swapped when connecting the units! Disconnect all parts of the system from the mains prior to wiring and servicing the units and prevent them from being reconnected! The unit should only be connected to fixed cables. Please read this manual in full to ensure correct and proper installation.

It is imperative that the following safety information is adhered to:

- Disconnect all parts of the system that you are working on from the mains power supply.
- Ensure that the equipment cannot be accidentally re-connected!
- Before commencing with the installation/servicing of the unit, wait until the fan has reached a standstill after the unit has been switched off.
- Attention! Pipes, casings and fittings can become very hot depending on the operating mode!
- Personnel should be qualified and possess adequate knowledge of the following:
 - Safety prevention and accident prevention
 - Guidelines and recognised technical regulations, such as VDE guidelines
 - DIN and EN standards
 - Accident prevention regulations VBG, VBG4, VBG9a
 - DIN VDE 0100, DIN VDE 0105
 - EN 60730 (Part 1)
 - Technical regulations issued by the relevant power supply companies

Modifications to the equipment

Do not perform any modifications, conversions or additions to Katherm QK units without consulting the manufacturer, as this could impair the safety and correct operation of the units.

Do not carry out any work on the equipment that is not described in this manual. Fittings and cabling should be appropriate for the system!

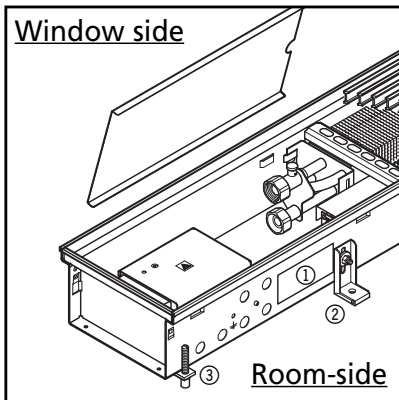


Openings are provided on the floor duct for a potential balancing line.

3. Models/Scope of delivery

Floor ducts are supplied as standard with:

- Height adjustment feet, room-side, ① rubber pads for sound insulation ②, screws and rawplugs provided by the customer
- Raised floor mounting feet ③



Example shown:
Katherm QK 207

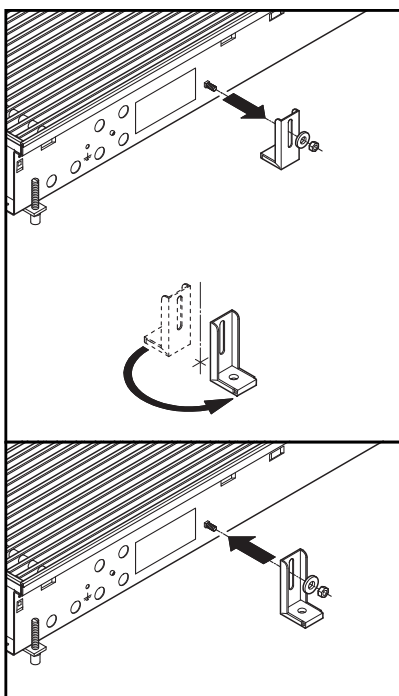


Fig.: Turning the height adjustment feet

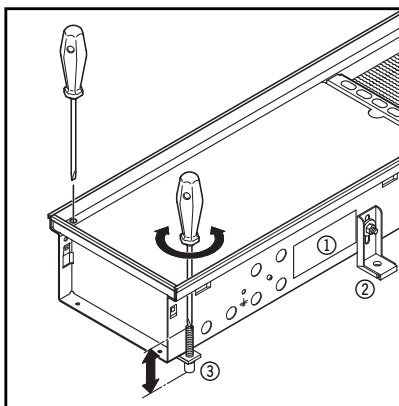


Fig.: Setting the height on the raised floor mounting feet

4. Levelling/Waterside connections

- Remove outer film and packaging cardboard.
- Open the transparent protective cover.

Attention : remove the transport protection between the fan motor(s) and convector. Do not remove the supports during assembly and operation.

- Arrange the Katherm QK with the PowerKon heat exchanger next to the window.

Attention : the height adjustment feet are already fitted to the floor duct. However, these were fastened to the foot underneath the duct for transportation purposes. The outer fastening nut of the height adjustment foot must be loosened and the height adjustment foot turned 180° so that the foot is pointing outwards (see Fig.).

- Then set the floor duct and align the height on the height adjustment feet and adjustment screws of the raised floor mounting feet with rubber pads for sound insulation ③.
- Fit the height adjustment feet on the room side ① with rubber underlays to isolate sound ②, using screws and dowels supplied by others.
- Use the stamped room-side pipe openings for the water-side connection. Remove the stamped pipe openings. Screw the thermostat valve and the return shut-off valve without any additional sealant to the Eurokonus connections on the convector.
- Then fit the flow and return pipework.
- Perform a pressure test.
- Ensure that this manual is clearly visible to subsequent trades on this equipment.
- Cover the grille and floor duct with the transparent protective cover to prevent it from becoming dirty or damaged by dirt or cement on site.

Attention : Grilles are suitable for foot traffic. Local bar loads (i.e. chair legs) must be avoided!

5. Thermoelectric actuator

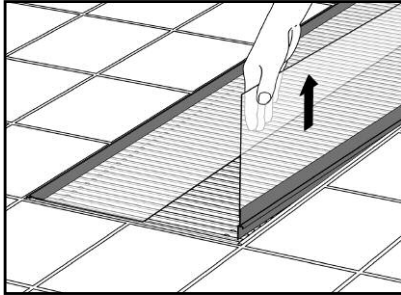
The thermoelectric actuator can be connected directly to the control PCB in the connection-ready junction box in the trench heating.

1.42 Katherm QK - Cross-flow fan convection with compact EC motor

Ready-to-install floor duct convectors

Installation instructions

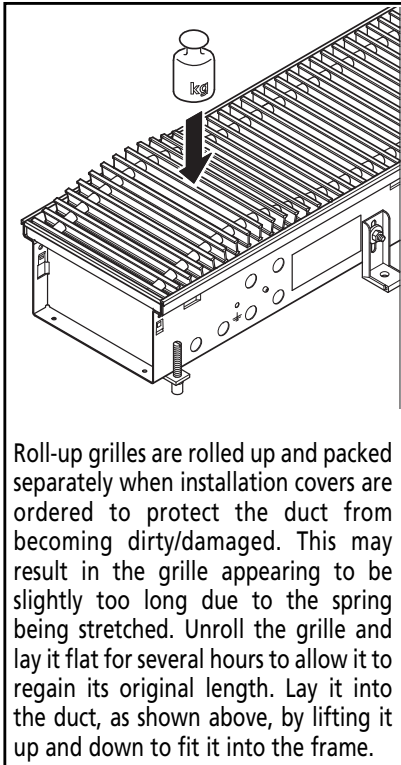
6. Screeding



Installation cover: (Remove the transparent installation cover before commissioning the equipment)

Prior to screeding, check whether

- The pipework has been connected up correctly,
- The wiring is correct,
- The floor duct is at the correct height and has the correct air outlet,
- The grille is covered (Important! Cement can damage the surface of the grille!),
- Sound insulation is fitted underneath the floor duct (not necessary with raised floors),
- There are no sound bridges to the concrete slab, particularly around the height adjustment feet,
- All openings and pre-punched openings in the floor duct are sealed from the ingress of screed using suitable material.
- Provide additional sealing to the openings and pre-punched openings on the floor duct if using floating screed or other viscous floor covering.



Roll-up grilles are rolled up and packed separately when installation covers are ordered to protect the duct from becoming dirty/damaged. This may result in the grille appearing to be slightly too long due to the spring being stretched. Unroll the grille and lay it flat for several hours to allow it to regain its original length. Lay it into the duct, as shown above, by lifting it up and down to fit it into the frame.

Important note! Do not allow the floor duct to be compressed by screed or the floor. Provide expansion joints if need be.

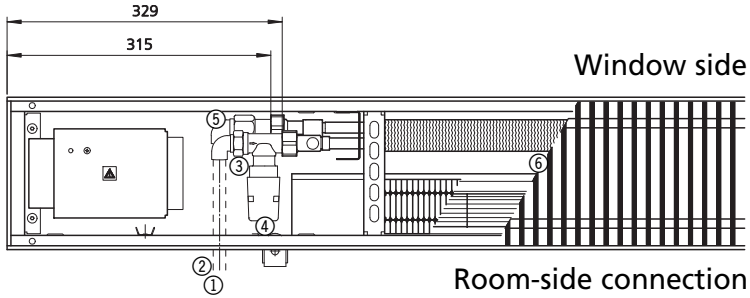
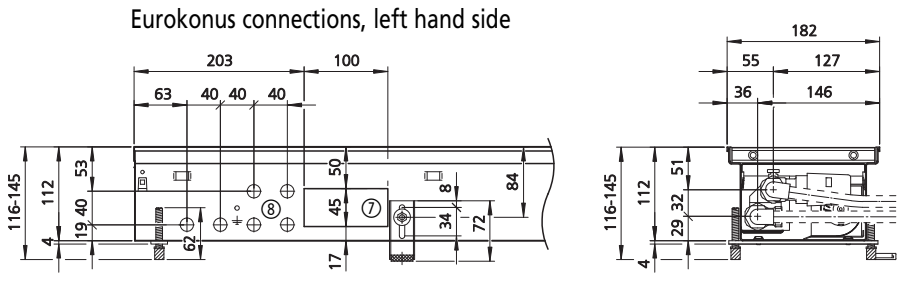
Katherm QK - Cross-flow fan convection with compact EC motor **1.42**

Ready-to-install floor duct convectors

Installation instructions

7. Water connections · Pipe openings

Katherm QK 182

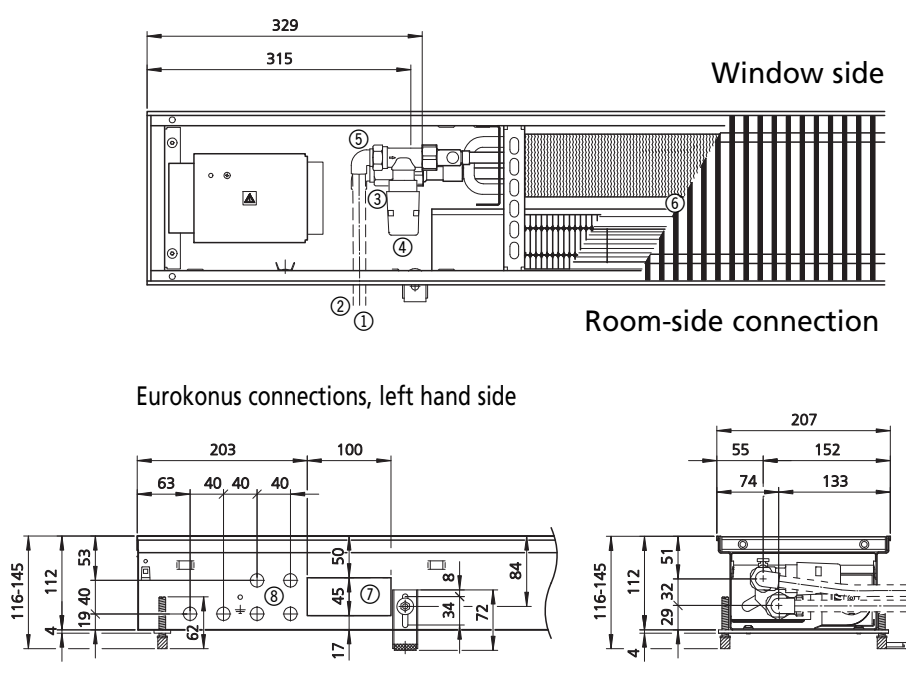
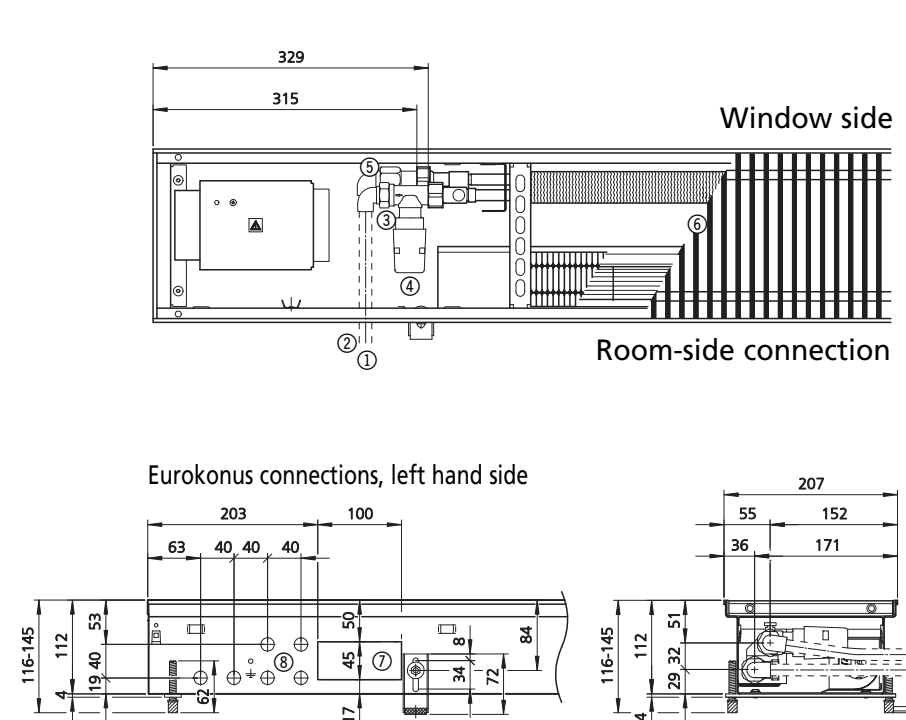
Design	Room-side pipe connections
<p>Katherm QK 182</p> <ul style="list-style-type: none"> ① Flow ② Return ③ Valve body, straight, type 146909 or type 346909 (presettable) ④ Thermoelectric actuator, type 146906 ⑤ Return shut-off valve, straight, type 145952 ⑥ Unit shown with roll-up grille ⑦ Pipe conduits, cut-out ⑧ Cable conduits 	<div style="text-align: right; margin-bottom: 20px;">Window side</div>  <p style="text-align: right;">Room-side connection</p> <p style="text-align: center; margin-top: 20px;">Eurokonus connections, left hand side</p> 

1.42 Katherm QK - Cross-flow fan convection with compact EC motor

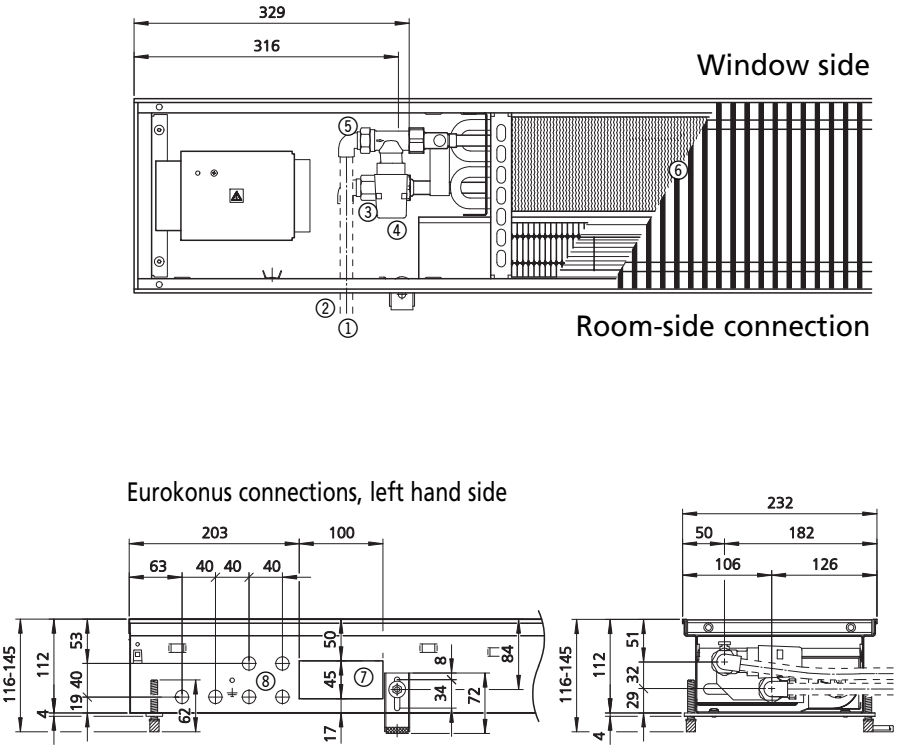
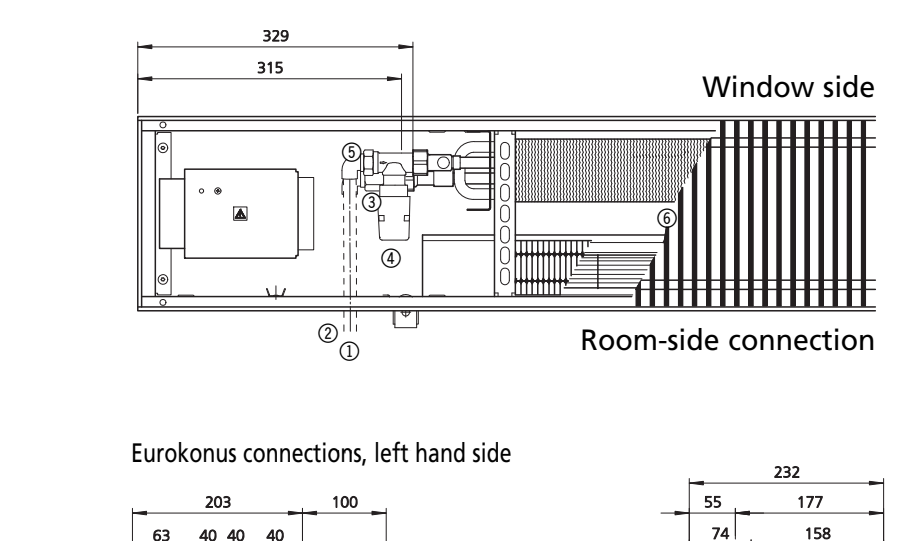
Ready-to-install floor duct convectors

Installation instructions

Katherm QK 207, Katherm QK 207s

Design	Room-side pipe connections
<p>Katherm QK 207</p> <ul style="list-style-type: none"> ① Flow ② Return ③ Valve body, straight, type 146909 or type 346909 (presettable) ④ Thermoelectric actuator, type 146906 ⑤ Return shut-off valve, straight, type 145952 ⑥ Unit shown with roll-up grille ⑦ Pipe conduits, cut-out ⑧ Cable conduits 	 <p>The drawings for the Katherm QK 207 model show the following dimensions and features:</p> <ul style="list-style-type: none"> Window side: Overall width 329, distance to return connection 315. Room-side connection: Shows the internal valve and actuator components. Eurokonus connections, left hand side: Shows the side profile with dimensions: total width 203, distance to return 100, and various offset dimensions (63, 40, 40, 40, 116-145, 112, 4, 19, 40, 53, 62, 17, 45, 50, 7, 34, 8, 72, 84).
<p>Katherm QK 207s</p> <ul style="list-style-type: none"> ① Flow ② Return ③ Valve body, straight, type 146909 or type 346909 (presettable) ④ Thermoelectric actuator, type 146906 ⑤ Return shut-off valve, straight, type 145952 ⑥ Unit shown with roll-up grille ⑦ Pipe conduits, cut-out ⑧ Cable conduits 	 <p>The drawings for the Katherm QK 207s model show the following dimensions and features:</p> <ul style="list-style-type: none"> Window side: Overall width 329, distance to return connection 315. Room-side connection: Shows the internal valve and actuator components. Eurokonus connections, left hand side: Shows the side profile with dimensions: total width 203, distance to return 100, and various offset dimensions (63, 40, 40, 40, 116-145, 112, 4, 19, 40, 53, 62, 17, 45, 50, 7, 34, 8, 72, 84).

Katherm QK 232, Katherm QK 232s

Design	Room-side pipe connections
<p>Katherm QK 232</p> <ul style="list-style-type: none"> ① Flow ② Return ③ Valve body, straight, type 146909 or type 346909 (presettable) ④ Thermoelectric actuator, type 146906 ⑤ Return shut-off valve, straight, type 145952 ⑥ Unit shown with roll-up grille ⑦ Pipe conduits, cut-out ⑧ Cable conduits 	 <p>The drawing for the Katherm QK 232 shows a side view of the unit with dimensions 329 and 316. It is labeled 'Window side' and 'Room-side connection'. Below this are two detailed views of the 'Eurokonus connections, left hand side'. The first view shows a top-down layout of the pipe connections with dimensions: 203, 100, 63, 40, 40, 40, 116-145, 4, 19, 40, 53, 67, 45, 50, 17, 34, 8, 72, 84. The second view shows a side profile of the Eurokonus connection with dimensions: 232, 50, 182, 106, 126, 116-145, 4, 29, 32, 51.</p>
<p>Katherm QK 232s</p> <ul style="list-style-type: none"> ① Flow ② Return ③ Valve body, straight, type 146909 or type 346909 (presettable) ④ Thermoelectric actuator, type 146906 ⑤ Return shut-off valve, straight, type 145952 ⑥ Unit shown with roll-up grille ⑦ Pipe conduits, cut-out ⑧ Cable conduits 	 <p>The drawing for the Katherm QK 232s shows a side view of the unit with dimensions 329 and 315. It is labeled 'Window side' and 'Room-side connection'. Below this are two detailed views of the 'Eurokonus connections, left hand side'. The first view shows a top-down layout of the pipe connections with dimensions: 203, 100, 63, 40, 40, 40, 116-145, 4, 19, 40, 53, 67, 45, 50, 17, 34, 8, 72, 84. The second view shows a side profile of the Eurokonus connection with dimensions: 232, 55, 177, 74, 158, 116-145, 4, 29, 32, 51.</p>

1.42 Katherm QK - Cross-flow fan convection with compact EC motor

Ready-to-install floor duct convectors

Installation instructions

8. Number of height adjustment feet and raised floor mounting feet

Duct length [mm]	Number of height adjustment feet	Number of raised floor mounting feet
1000	2	2
1200	2	3
1400	2	3
1600	2	3
1800	2	3
2000	2	4
2200	2	4
2400	2	4
2600	2	5
2800	2	5
3000	2	5
3200	2	5

9. Maintenance

Important note

Katherm QK floor ducts should only be maintained and serviced by trained and qualified personnel and noting the information provided in the installation and operating manual, as well as all applicable regulations. Regular servicing and maintenance is needed to ensure the correct operation and performance of Katherm QK units.

Fans

- Check the crossflow fans every six months for dirt and damage (visual inspection).
- Clean the fan cylinder carefully with a cloth if dirty.

Heat exchanger

- Check the integral heat exchanger every six months for dirt and possible damage. A visual inspection will suffice here too.
- If dirty, carefully vacuum the heat exchanger.

Valves

- Also inspect the valves every 12 months and check that they are tight (visual inspection)!



10. Electrical connection / electromechanical controls

10.1 Wire electrical connections

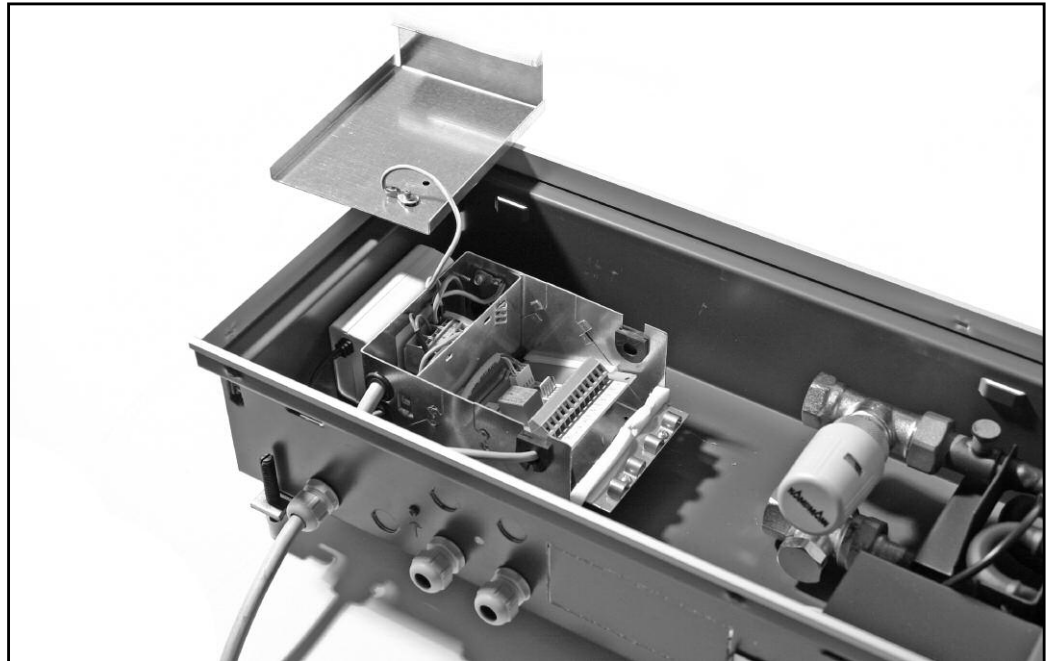


Fig. Katherm QK with terminal box and power supply cable:

The connection for the electrical cables is located in the terminal box. To connect the electrical cables, open the terminal box, insert the cables and connect them up according to the wiring diagram (provided with the unit).

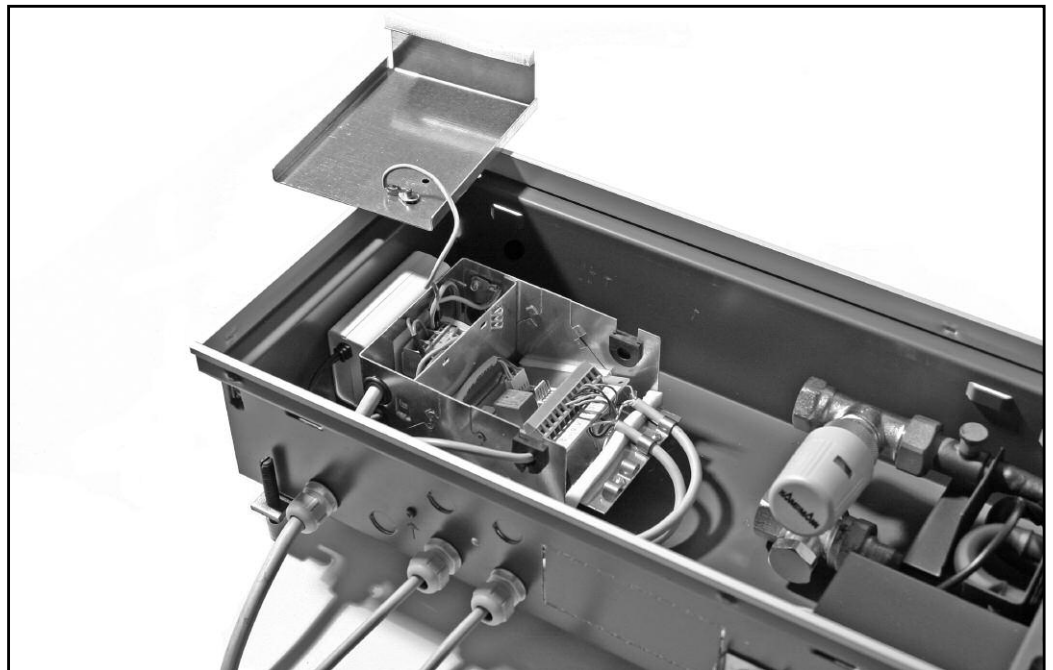


Fig. Stripping the control cables:

Insert and strip the control cables and wire them up according to the wiring diagram (provided with the unit).

1.42 Katherm QK - Cross-flow fan convection with compact EC motor

Ready-to-install floor duct convectors

Installation instructions

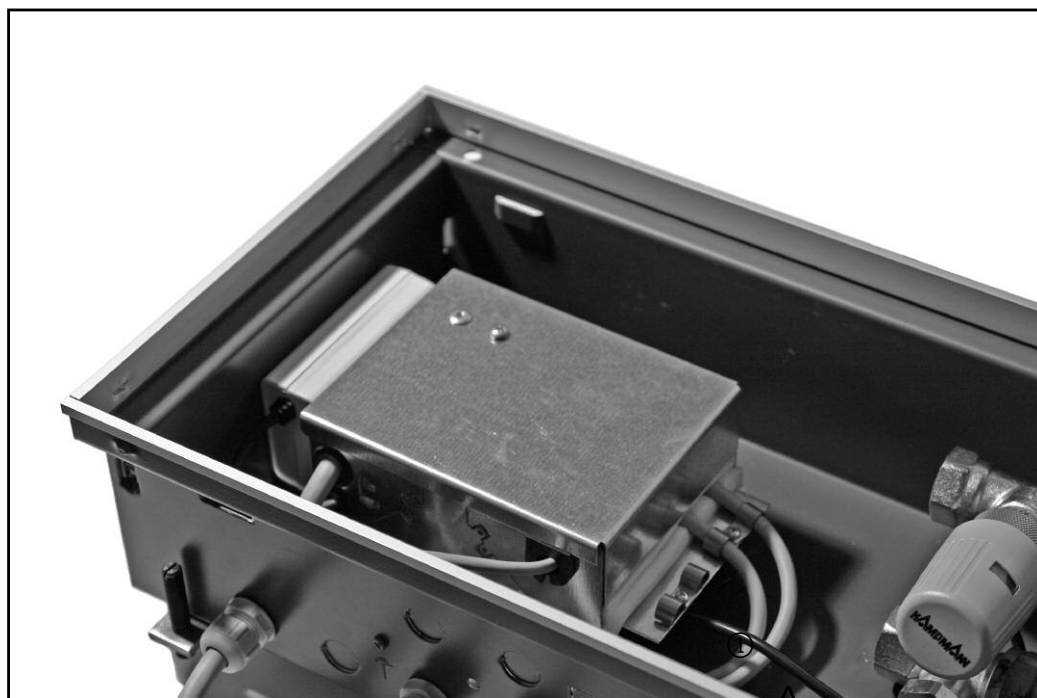


Fig. Wiring up the valve actuator:

Wire up the valve actuator according to the wiring diagram (provided with the unit). Close the terminal box housing.

10.2 Control option: room thermostat with speed controller

Combination of room thermostat with speed controller:

- The desired room temperature is set on the room thermostat. If this falls below the set value, the cross-flow fan runs at the set speed and the thermoelectric actuator opens the water-side valve.
- Speed controller in zero position (off): only the water-side valve opens (operation in natural convection).

Room thermostat with speed setting; in a flat flush-mounted housing, colour white, with thermal return flow; for the variable control of max. 5 Katherm QK in parallel; setting of room temperature and pre-setting of speed using rotary knobs; temperature setting range 5 - 30 °C; protection class IP 30, voltage 230 V/50 HZ, max. power load 4 A, switching differential 0.5 K, temperature drop approx. 4 K, safety and EMC in accordance with DIN EN 60730



Fig.: Room thermostat

Dimensions W x H x D: 78 x 83 x 27 mm

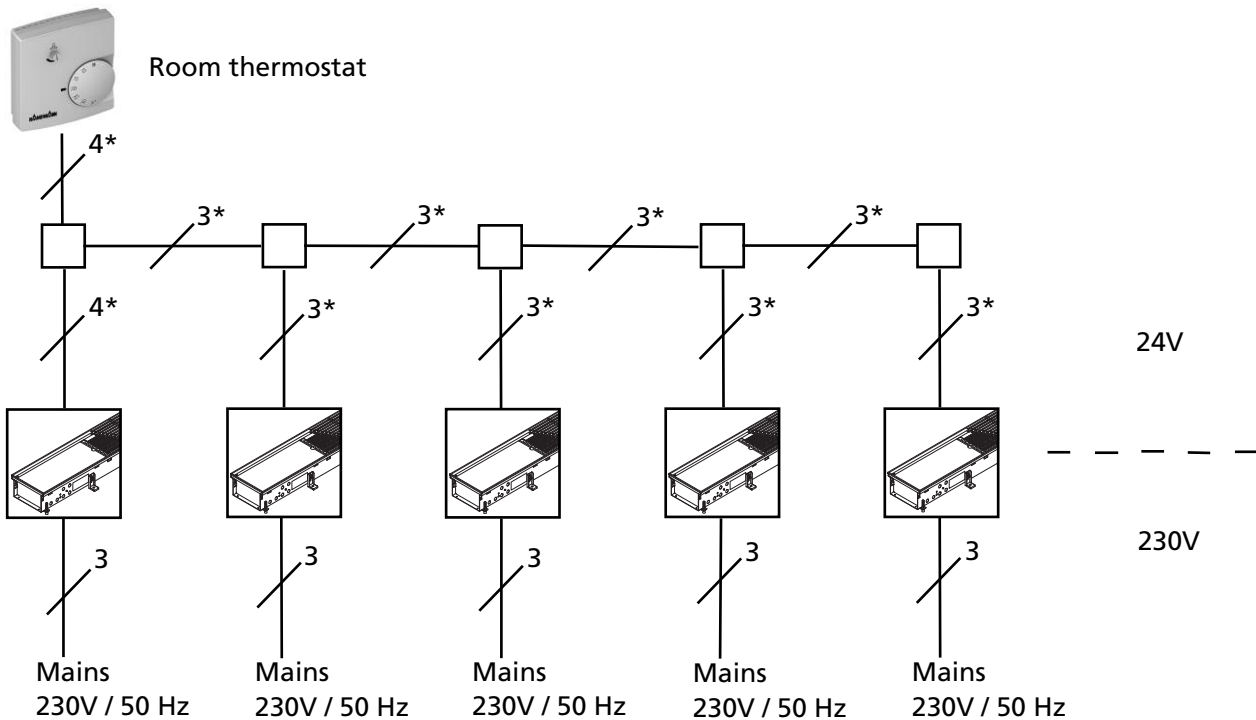
- ① Rotary knob for temperature setting
- ② Rotary knob for speed setting

10.3 Electrical rating

Katherm QK		
Duct length	1000 - 2000 mm	2200 - 3200 mm
Power uptake*	16 W	31 W
* including thermoelectric actuator 24 VDC type 146906		

10.4 Wiring diagram

10.4.1 Electromechanical control system



* = shielded cable. CAT5 (AWG 23) cable connections (or similar) must be used.

□ = junction boxes (External junction boxes should be used when controlling several Katherm QK in one group).

Maximum number of Katherm QK that can be connected per room thermostat: 10 Katherm QK

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