



► **Katherm QK nano**
trench heating


Katherm QK nano

Ultra-small trench heaters
with EC tangential fan

► **Technical catalogue**

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Katherm QK nano:
leaves room
for more.



A completely new look:
No other trench heater blends as
seamlessly and discreetly into the
interior of a space as the
Katherm QK nano with its innovative
FineLine grille.

01 ▶ Product information



Katherm QK nano - high-performance from the most compact dimensions

Heaters in front of windows are often unacceptable for visual reasons in modern administration and residential buildings and other buildings with large areas of glazing. At the same time, the demands of the users in terms of the aesthetics of the space are also becoming more exacting.

Katherm QK nano represent high heat outputs from extremely compact dimensions. Measuring only 70 mm in height and with a trench width of only 165 mm, the can be used in buildings where trench heaters are not generally considered due to the lack of space. As these units take up very little space, serious attention has been paid with the Katherm QK nano to the optimum interaction of the whisper-quiet EC tangential fan and the high-output copper-aluminium fan coil. Measurements and CFD simulations in the Kampmann FEC Research & Development Centre have produced a trench heater that generates comfort in a space with its high heat outputs and low sound levels.

Function

Air is drawn in by the fan and routed through the parallel convector. The convector arranged on the window side provides for optimum screening of cold air in front of the window. The stream of warm air thus flows draught-free into the room.

EC tangential fans

EC tangential fans can be operated across a significantly wider speed range due to their integrated power electronics.

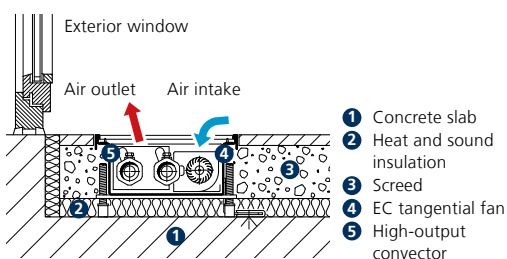
Low fan speeds generate noise that often lies far below the audible threshold and thus help to create a pleasant ambience in living rooms, bedrooms, offices and hotel bedrooms. The motor management permanently detects the operating status and keeps the pre-set speed constant, regardless of the fan length and external influences.

Control

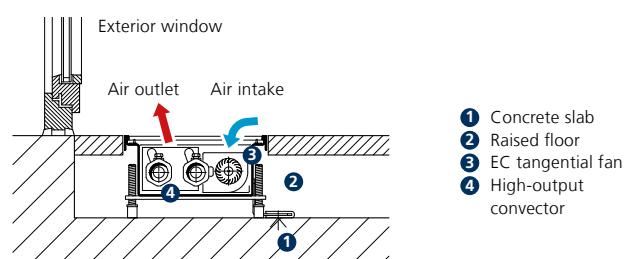
Three different control configurations ensure the simple integration of the Katherm QK nano into individual control concepts. The space-saving 24 V versions permits direct connection to on-site building management systems. An electromechanical control option using a room thermostat or alternatively the KaControl system are both available for continuously variable control with 230 V supply voltage. KaControl represents the system solution for maximum energy efficiency, limitless integration options into building automation systems and the highest degree of user-friendly operating philosophy.

Installation options

Installed in screed



Installation in a raised floor



Product data



Product features

- ▶ extremely low overall height
- ▶ usual quietness and high-performance
- ▶ new FineLine grille



Features

Standard range

One trench width, 3 control configurations, 5 lengths with each. Notwithstanding the standard range (NP), the products can also be individually manufactured in line with the non-standard programme (MP).

- Convection** ▶ EC tangential fan
- Heating** ▶ LPHW
- Cooling** ▶ ---
- Ventilation** ▶ ---
- KaControl System** ▶ Optionally
▶ 2-pipe

Grille designs

- ▶ FineLine Q (orthogonal grille)
- ▶ FineLine L (linear grille)

Performance data

Heat output ¹⁾ [W]

- ▶ 248–3524

Sound pressure level ²⁾ [dB(A)]

- ▶ <20–41

Sound power level [dB(A)]

- ▶ <28–49

Applications

All areas of buildings in which the space for trench solutions is limited but where effective heating and cold air screening is required.



Homes and conservatories



Office and meeting rooms



Hotels / motels



Sales rooms and showrooms



Restaurants and cafés

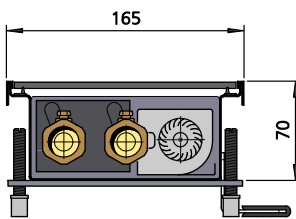
¹⁾ with LPHW 75 / 65 °C, $t_{i,1} = 20$ °C

²⁾ The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a clearance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081)

Selection guide: Overview of models

| Model | Trench width | Trench height | Unit length | Heat output ¹⁾ | Sound pressure level ²⁾ | Sound power level | Further information |
|--------------------------------|--------------|---------------|-------------|---------------------------|------------------------------------|-----------------------|---------------------|
| | [mm] | [mm] | [mm] | [W] | [dB(A)] | [dB(A)] | |
| 24 V electromechanical | 165 | 70 | 900–2600 | 248–3524 | <20 ³⁾ –41 | <28 ³⁾ –49 | ► Page 16 |
| 230 V electromechanical | 165 | 70 | 1100–2700 | 248–3524 | <20 ³⁾ –41 | <28 ³⁾ –49 | ► Page 18 |
| KaControl | | | | | | | |

Cross-sectional view



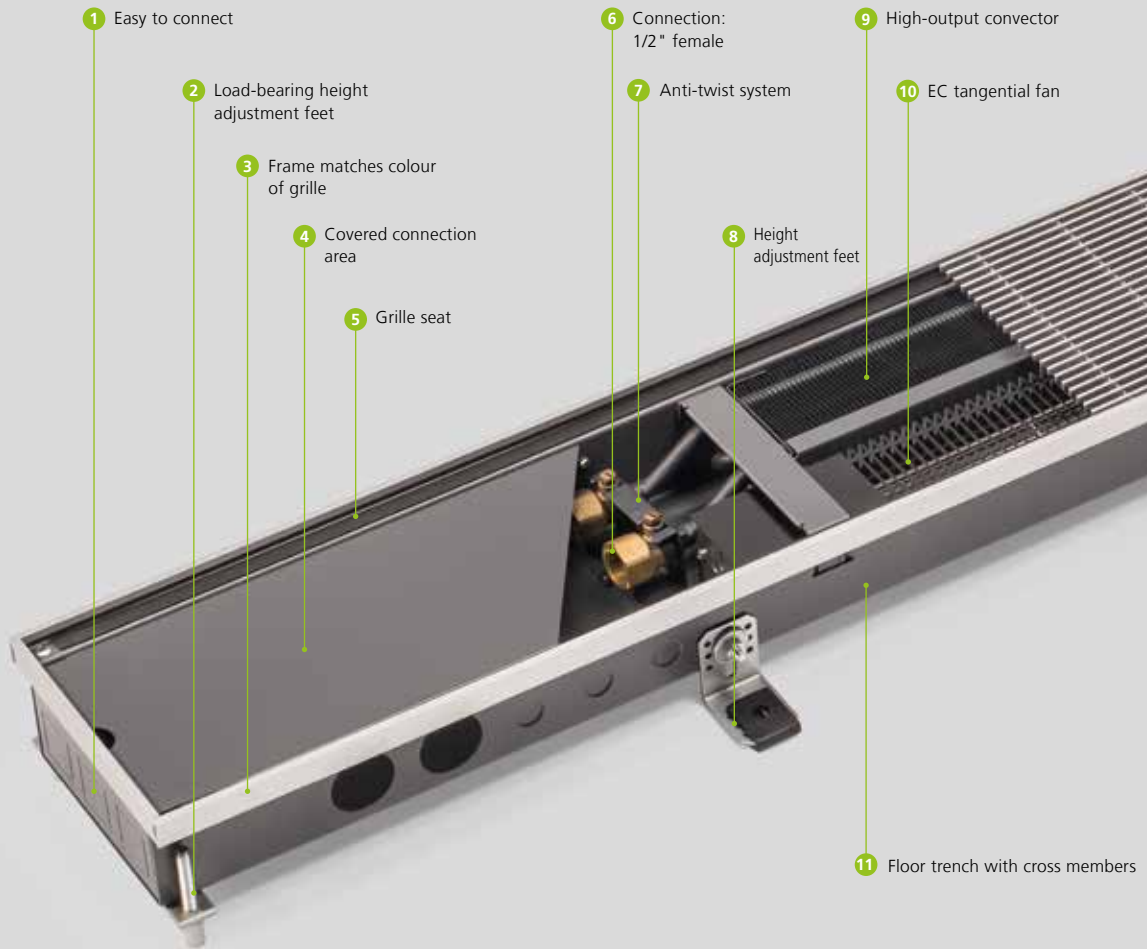
Kathern QK nano

¹⁾ at LPHW 75 / 65, $t_{L1} = 20^{\circ}\text{C}$ with fan-assisted convection. The heat outputs were measured and determined in accordance with DIN EN 16430 "Fan-assisted radiators, convectors and trench convectors" Part 1: "Technical specifications and requirements" and Part 2: "Test procedures and evaluation of heat outputs".

²⁾ The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a clearance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081).

³⁾ Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

Katherm QK nano at a glance



Features





A FineLine L:
linear grille, RAL 9006
(example)



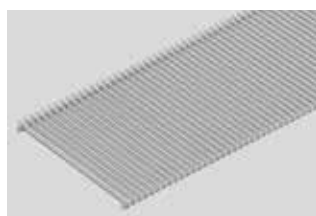
- 1 Easy to connect:**
 - ▶ removable end panel for ease of connection of trenches
- 2 Load-bearing height adjustment feet:**
 - ▶ for the safe mounting of the duct
 - ▶ with plastic cap for acoustic decoupling
- 3 Frame matches colour of grille**
- 4 Connection area:**
 - ▶ for valves and electrical components
 - ▶ with cover for visual protection and to protect against dirt
- 5 Grille seat:**
 - ▶ for impact sound insulation and acoustic decoupling
- 6 Connection: 1/2" female:**
 - ▶ for fast connection
 - ▶ space-saving
- 7 Anti-twist system:**
 - ▶ prevents damage to the convector when installing the valves
- 8 Height adjustment feet:**
 - ▶ for simple fixing of the floor duct
 - ▶ with rubber underlay for acoustic decoupling
- 9 High-output convector:**
 - ▶ the proven combination of copper/aluminium
 - ▶ optimised for airflow and heat dissipation
 - ▶ painted graphite-grey
- 10 EC tangential fan:**
 - ▶ for even airflow through the convector
 - ▶ robust motor design
 - ▶ continuously variable speed control via an external 0 – 10 V signal
- 11 Floor trench:**
 - ▶ galvanised sheet steel
 - ▶ painted graphite grey on both sides
 - ▶ with cross bracing to reinforce the floor trench
- 12 24 V electromechanical electrical connection**
- 13 230 V electromechanical/Ka-Control electrical connection**
 - ▶ includes 230/24 V power unit, PCB and junction box
- A FineLine L: linear grille, RAL 9006 (example)**
 - ▶ rigid grille, airflow-optimised triangular profiles
 - ▶ available as the FineLine Q (orthogonal grille) or FineLine L (linear grille)
 - ▶ available in powder-coated steel or natural stainless steel
 - ▶ 70 % free area

Matching grilles

FineLine Q

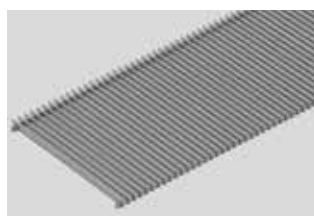
Powder coated steel

RAL 9006 white aluminium



Powder coated steel

RAL 9007 grey aluminium



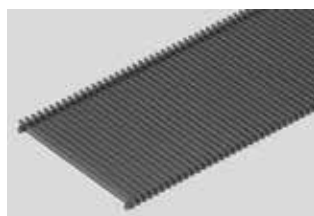
Powder coated steel

RAL 9005 black



Powder coated steel

DB 703 basalt grey



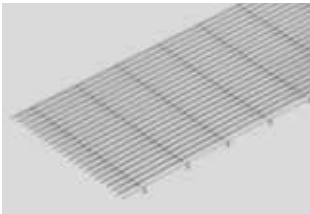
Stainless steel

Natural

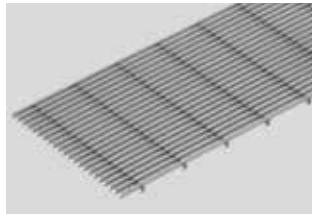


FineLine L

Powder coated steel
RAL 9006 white aluminium



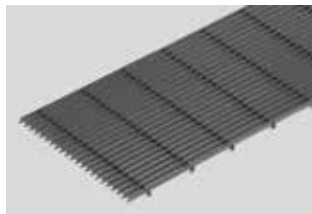
Powder coated steel
RAL 9007 grey aluminium



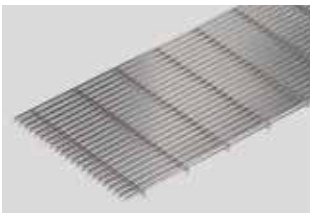
Powder coated steel
RAL 9005 black



Powder coated steel
DB 703 basalt grey



Stainless steel
Natural

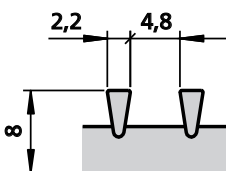


► For more grille models, please refer to Kampmann.gb/grilles

The above grilles are shown using a four-colour printing process and thus do not represent an exact reproduction of the original colour

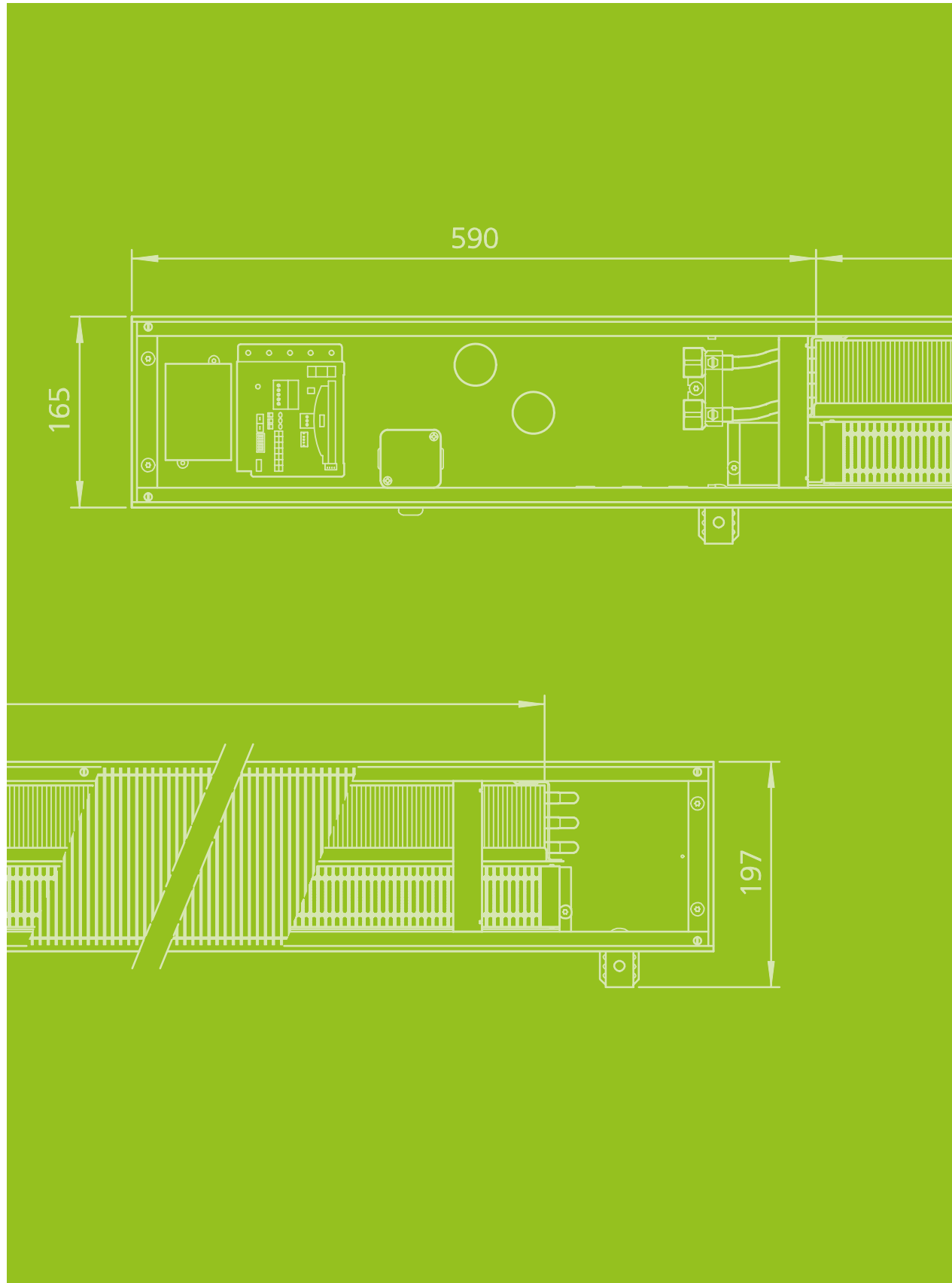
Diagram of the FineLine profiles

Airflow-optimised triangular profile



There can be slight deviations in colour between the grille and frame trim.

02 ▶ Technical data



Advice on measuring conditions

Heat outputs

The heat outputs have been tested in accordance with DIN EN 16430 ("Fan-assisted radiators, convectors and trench convectors").

The standard regulates the performance measurements specifically of trench convectors based on DIN EN 442. Three parts of DIN EN 16430 describe the measurements.

- Part 1 ▶ Technical specification and requirements
- Part 2 ▶ Test method and evaluation of heat output
- Part 3 ▶ Test method and evaluation of cooling output

The specific requirements for trench heating are taken into account in DIN EN 16430. The reference air temperature is measured in the centre of the test chamber (2 metres from the external wall) at a height

of 0.75 metres. The surface temperature of the external wall is 16°C. The trench heater is arranged, as it would be in practice, at a distance of 50 mm from the external wall.

Acoustics

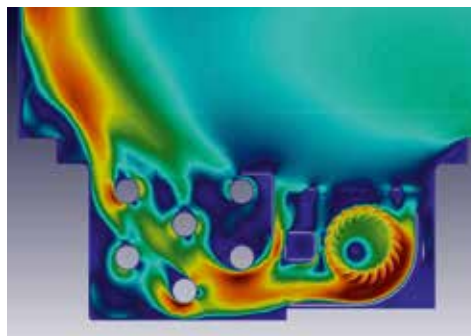
Katherm QK nano are very often used in acoustically sensitive areas. Accordingly, Katherm QK nano have been optimised in terms of noise levels. The sound power level is measured according to DIN EN ISO 3744 in a semi-low reflective sound measuring chamber.

Air flow simulation

CFD simulations were used to support the development of the Katherm QK nano, enabling the air flows in the trench to be visualised and optimised.

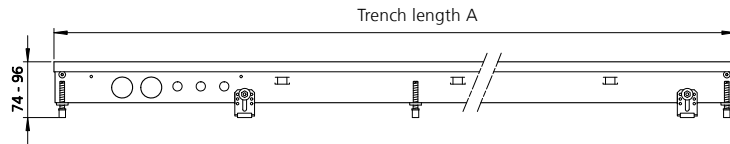


Air flow laboratory

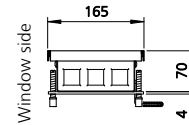


Katherm QK nano, 24 V electromechanical control

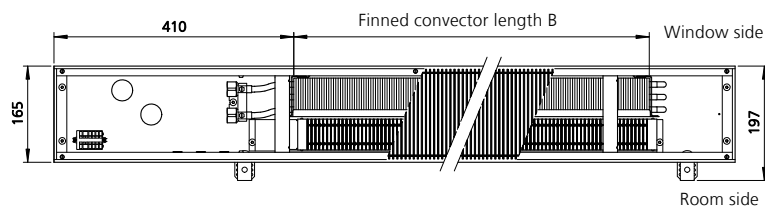
Technical drawings (all dimensions in mm)



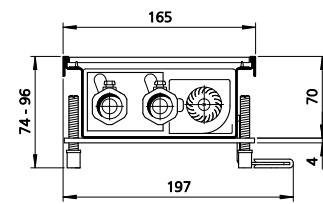
Front view



Side view



Top view (view without cover panel)



Cross-section (enlarged)
Unit shown with orthogonal grille

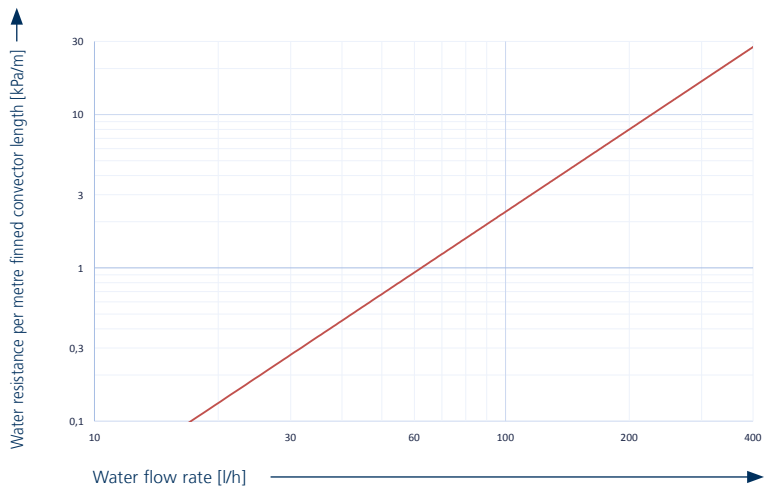
| Trench length A | Finned convector length B |
|--------------------|------------------------------|
| [mm] | [mm] |
| 900 | 435 |
| 1400 | 870 |
| 1800 | 1305 |
| 2100 | 1640 |
| 2600 | 1985 |

Specifications

Connections, female thread:
1/2", same end, left

Make use of our online calculation programs to calculate your heat outputs and flow rates with a couple of clicks!
[► Kampmann.co.uk/kathermqknano/calculation](http://Kampmann.co.uk/kathermqknano/calculation)

Water resistance: Heating curves



Performance data



| Fan stage | at fan speed | Heat outputs ¹⁾ | | Power consumption ²⁾ | Air volume | Sound pressure level ³⁾ | Sound power level |
|------------------------------|--------------|----------------------------|-----------------------|---------------------------------|---------------------|------------------------------------|--------------------|
| | | with LPHW 75/65 °C | with LPHW 82/71 °C | | | | |
| | | Q _N [W] | Q [W] | | | | |
| | [%] | | | P [W] | [m ³ /h] | [dB(A)] | [dB(A)] |
| Trench length 900 mm | | | | | | | |
| Boost stage | 100 | 772 | 874 | 5 | 75 | 34 | 42 |
| Design levels | 80 | 663 | 748 | 3 | 60 | 30 | 38 |
| | 60 | 539 | 607 | 2 | 50 | 22 | 30 |
| | 40 | 407 | 458 | 1 | 35 | < 20 ⁴⁾ | < 28 ⁴⁾ |
| Minimum stage | 20 | 248 | 295 | 1 | 25 | < 20 ⁴⁾ | < 28 ⁴⁾ |
| Natural convection | | 52 | 61 | --- | --- | --- | --- |
| Trench length 1400 mm | | | | | | | |
| Boost stage | 100 | 1545 | 1748 | 6 | 155 | 37 | 45 |
| Design levels | 80 | 1326 | 1496 | 3 | 120 | 33 | 41 |
| | 60 | 1078 | 1214 | 2 | 95 | 25 | 33 |
| | 40 | 813 | 917 | 1 | 70 | < 20 ⁴⁾ | < 28 ⁴⁾ |
| Minimum stage | 20 | 496 | 590 | 1 | 50 | < 20 ⁴⁾ | < 28 ⁴⁾ |
| Natural convection | | 104 | 121 | --- | --- | --- | --- |
| Trench length 1800 mm | | | | | | | |
| Boost stage | 100 | 2317 | 2621 | 7 | 230 | 39 | 47 |
| Design levels | 80 | 1989 | 2244 | 4 | 180 | 35 | 43 |
| | 60 | 1618 | 1821 | 3 | 145 | 27 | 35 |
| | 40 | 1220 | 1375 | 2 | 105 | < 20 ⁴⁾ | < 28 ⁴⁾ |
| Minimum stage | 20 | 744 | 885 | 1 | 75 | < 20 ⁴⁾ | < 28 ⁴⁾ |
| Natural convection | | 156 | 182 | --- | --- | --- | --- |
| Trench length 2100 mm | | | | | | | |
| Boost stage | 100 | 2912 | 3294 | 8 | 290 | 40 | 48 |
| Design levels | 80 | 2499 | 2820 | 6 | 225 | 36 | 44 |
| | 60 | 2033 | 2288 | 3 | 180 | 28 | 36 |
| | 40 | 1533 | 1728 | 2 | 130 | 20 | 28 |
| Minimum stage | 20 | 935 | 1112 | 1 | 95 | < 20 ⁴⁾ | < 28 ⁴⁾ |
| Natural convection | | 196 | 229 | --- | --- | --- | --- |
| Trench length 2600 mm | | | | | | | |
| Boost stage | 100 | 3524 | 3987 | 13 | 345 | 41 | 49 |
| Design levels | 80 | 3025 | 3414 | 7 | 270 | 37 | 45 |
| | 60 | 2461 | 2770 | 5 | 220 | 29 | 37 |
| | 40 | 1856 | 2092 | 3 | 160 | 21 | 29 |
| Minimum stage | 20 | 1132 | 1346 | 2 | 115 | < 20 ⁴⁾ | < 28 ⁴⁾ |
| Natural convection | | 238 | 277 | --- | --- | --- | --- |

Q_N [W] = Standard heat output

Q [W] = Heat output

¹⁾ At room air temperature t_L = 20 °C

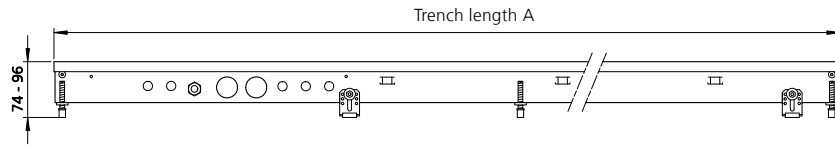
²⁾ Add an additional power consumption of 3 W per valve actuator type 146906.

³⁾ The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 sec (as per VDI 2081).

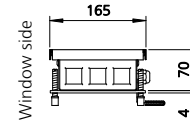
⁴⁾ Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

Katherm QK nano, 230 V electromechanical control or KaControl

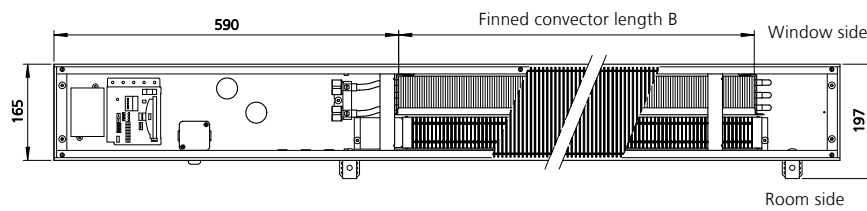
Technical drawings (all dimensions in mm)



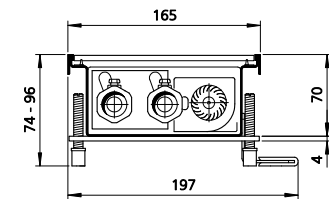
Front view



Side view



Top view (view without cover panel)



Cross-section (enlarged)
Unit shown with orthogonal grille

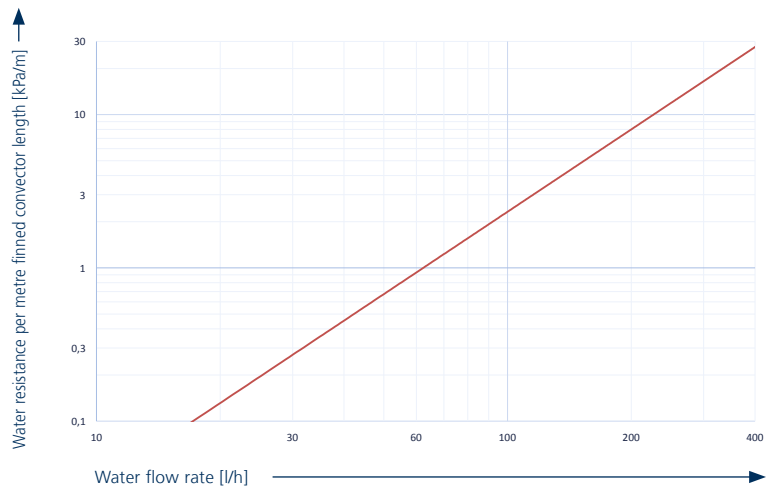
| Trench length A | Finned convector length B |
|--------------------|------------------------------|
| [mm] | [mm] |
| 1100 | 435 |
| 1600 | 870 |
| 2000 | 1305 |
| 2300 | 1640 |
| 2700 | 1985 |

Specifications

Connections, female thread:
1/2", same end, left

Make use of our online calculation programs to calculate your heat outputs and flow rates with a couple of clicks!
[► Kampmann.co.uk/kathermqknano/calculation](http://Kampmann.co.uk/kathermqknano/calculation)

Water resistance: Heating curves



Performance data



| Fan stage | at fan speed | Heat outputs ¹⁾ | | Power consumption ²⁾ | Air volume | Sound pressure level ³⁾ | Sound power level |
|------------------------------|--------------|----------------------------|-----------------------|---------------------------------|---------------------|------------------------------------|--------------------|
| | | with LPHW 75/65 °C | with LPHW 82/71 °C | | | | |
| | | Q _N [W] | Q [W] | | | | |
| | [%] | | | P [W] | [m ³ /h] | [dB(A)] | [dB(A)] |
| Trench length 1100 mm | | | | | | | |
| Boost stage | 100 | 772 | 874 | 6 | 75 | 34 | 42 |
| Design levels | 80 | 663 | 748 | 4 | 60 | 30 | 38 |
| | 60 | 539 | 607 | 3 | 50 | 22 | 30 |
| | 40 | 407 | 458 | 2 | 35 | < 20 ⁴⁾ | < 28 ⁴⁾ |
| Minimum stage | 20 | 248 | 295 | 2 | 25 | < 20 ⁴⁾ | < 28 ⁴⁾ |
| Natural convection | | 52 | 61 | --- | --- | --- | --- |
| Trench length 1600 mm | | | | | | | |
| Boost stage | 100 | 1545 | 1748 | 7 | 155 | 37 | 45 |
| Design levels | 80 | 1326 | 1496 | 4 | 120 | 33 | 41 |
| | 60 | 1078 | 1214 | 3 | 95 | 25 | 33 |
| | 40 | 813 | 917 | 2 | 70 | < 20 ⁴⁾ | < 28 ⁴⁾ |
| Minimum stage | 20 | 496 | 590 | 2 | 50 | < 20 ⁴⁾ | < 28 ⁴⁾ |
| Natural convection | | 104 | 121 | --- | --- | --- | --- |
| Trench length 2000 mm | | | | | | | |
| Boost stage | 100 | 2317 | 2621 | 8 | 230 | 39 | 47 |
| Design levels | 80 | 1989 | 2244 | 5 | 180 | 35 | 43 |
| | 60 | 1618 | 1821 | 4 | 145 | 27 | 35 |
| | 40 | 1220 | 1375 | 3 | 105 | < 20 ⁴⁾ | < 28 ⁴⁾ |
| Minimum stage | 20 | 744 | 885 | 2 | 75 | < 20 ⁴⁾ | < 28 ⁴⁾ |
| Natural convection | | 156 | 182 | --- | --- | --- | --- |
| Trench length 2300 mm | | | | | | | |
| Boost stage | 100 | 2912 | 3294 | 9 | 290 | 40 | 48 |
| Design levels | 80 | 2499 | 2820 | 7 | 225 | 36 | 44 |
| | 60 | 2033 | 2288 | 4 | 180 | 28 | 36 |
| | 40 | 1533 | 1728 | 3 | 130 | 20 | 28 |
| Minimum stage | 20 | 935 | 1112 | 2 | 95 | < 20 ⁴⁾ | < 28 ⁴⁾ |
| Natural convection | | 196 | 229 | --- | --- | --- | --- |
| Trench length 2700 mm | | | | | | | |
| Boost stage | 100 | 3524 | 3987 | 14 | 345 | 41 | 49 |
| Design levels | 80 | 3025 | 3414 | 8 | 270 | 37 | 45 |
| | 60 | 2461 | 2770 | 6 | 220 | 29 | 37 |
| | 40 | 1856 | 2092 | 4 | 160 | 21 | 29 |
| Minimum stage | 20 | 1132 | 1346 | 3 | 115 | < 20 ⁴⁾ | < 28 ⁴⁾ |
| Natural convection | | 238 | 277 | --- | --- | --- | --- |

Q_N [W] = Standard heat output

Q [W] = Heat output

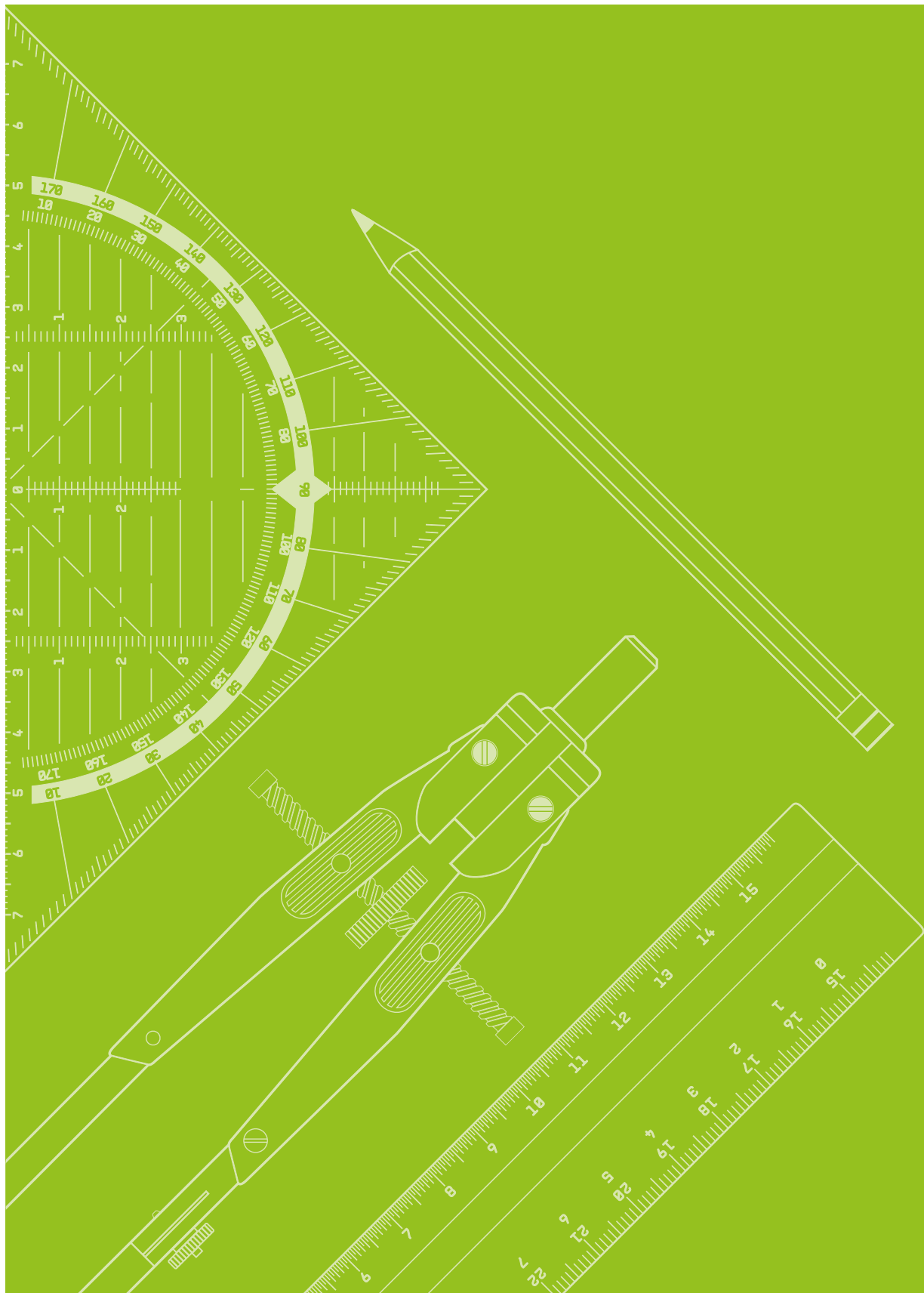
¹⁾ At room air temperature t_L = 20 °C

²⁾ Add an additional power consumption of 3 W per valve actuator type 146906.

³⁾ The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 sec (as per VDI 2081).

⁴⁾ Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

03 ▶ Design Information



Information on planning and design

Katherm QK nano are design for buildings of all kinds that require heating but have only limited space available.

In spite of their shallow height, Katherm QK nano can meet high heat loads in a space with assistance from whisper-quiet EC tangential fans.

They are generally positioned directly in front of the external façade without a gap. Katherm QK nano can provide cost-effective and efficient heating, particularly in front of large areas of glazing.

Air outlet

All Katherm QK nano are positioned with the convector on the window side. The warm air rising up the exterior façade flows draught-free into the room, guaranteeing optimum cold air screening.

Acoustics

The respective sound power levels of Katherm QK nano are indicated in the tables (see "Technical data"). The sound pressure levels were calculated with an assumed room insulation of 8 dB(A). This corresponds to a distance of 2 m, a room volume of 100 m³ and a reverberation time of 0.5 s (in accordance with VDI 2081).

As the sound pressure level is not only due to the Katherm QK nano, but is also influenced by the number of Katherm QK nano and also very significantly by the acoustic characteristics of the room, the actual figure may vary in practice.

We would recommend designing Katherm QK nano taking into account the respective permitted sound pressure level in the room.

Heat outputs

The heat outputs were calculated based on DIN EN 16430. We would recommend our online calculation programs to convert to other operating conditions: kampmann.gb/kathermqknano/calculation

Take advantage of our online calculation programmes to calculate heat outputs and flow rates at the click of a button!

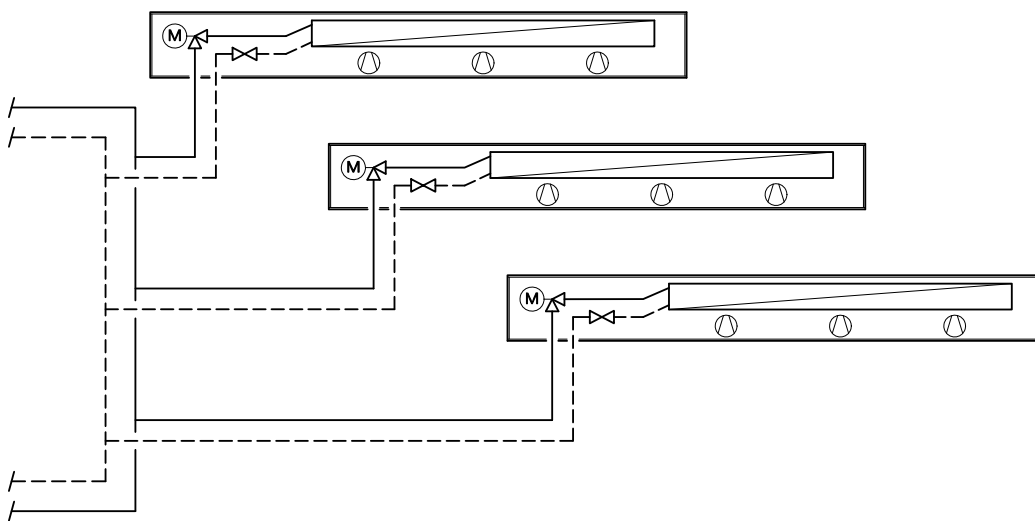
- ▶ kampmann.gb/kathermqknano/calculation

Hydraulic set-up

Each model of the Katherm QK nano (24 V electromechanical, 230 V electromechanical or KaControl) offers two hydraulic set-up options with the optional accessory kits type 442100 and type 442101. Valve kit type 442100 can be used if

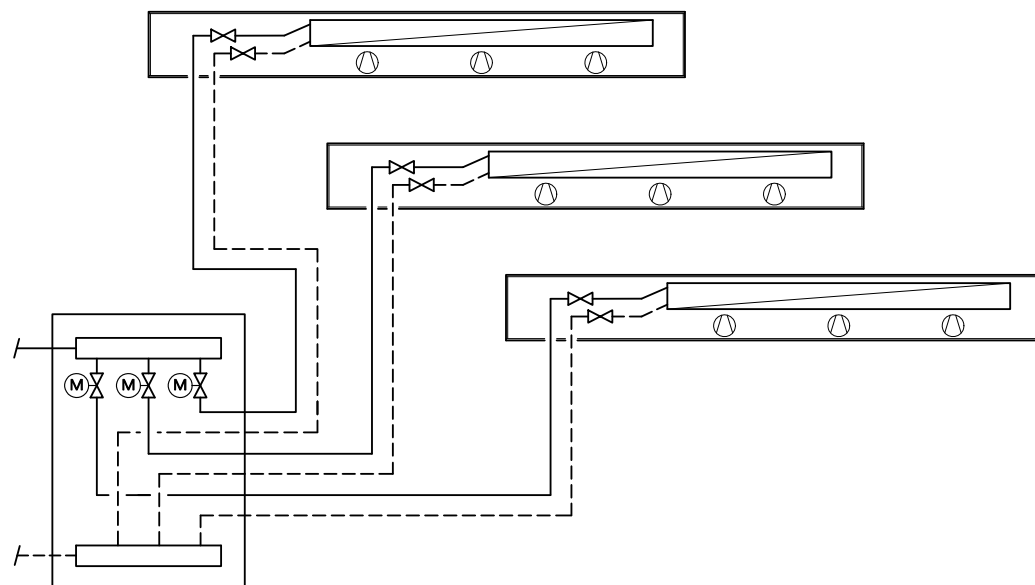
valve control is planned in the trench. If the hydraulic system is to be controlled via a central heating circuit distributor, connection kit type 442101 can be used to shut off the copper-aluminium convectors.

Decentralised valve control



Valve kit type 442100 must be ordered separately.

Central heating circuit distributor



Valve kit type 442101 must be ordered separately.

04 ▶ Controls

24 V electromechanical model

Model for complete on-site regulation of trench units.

Product features

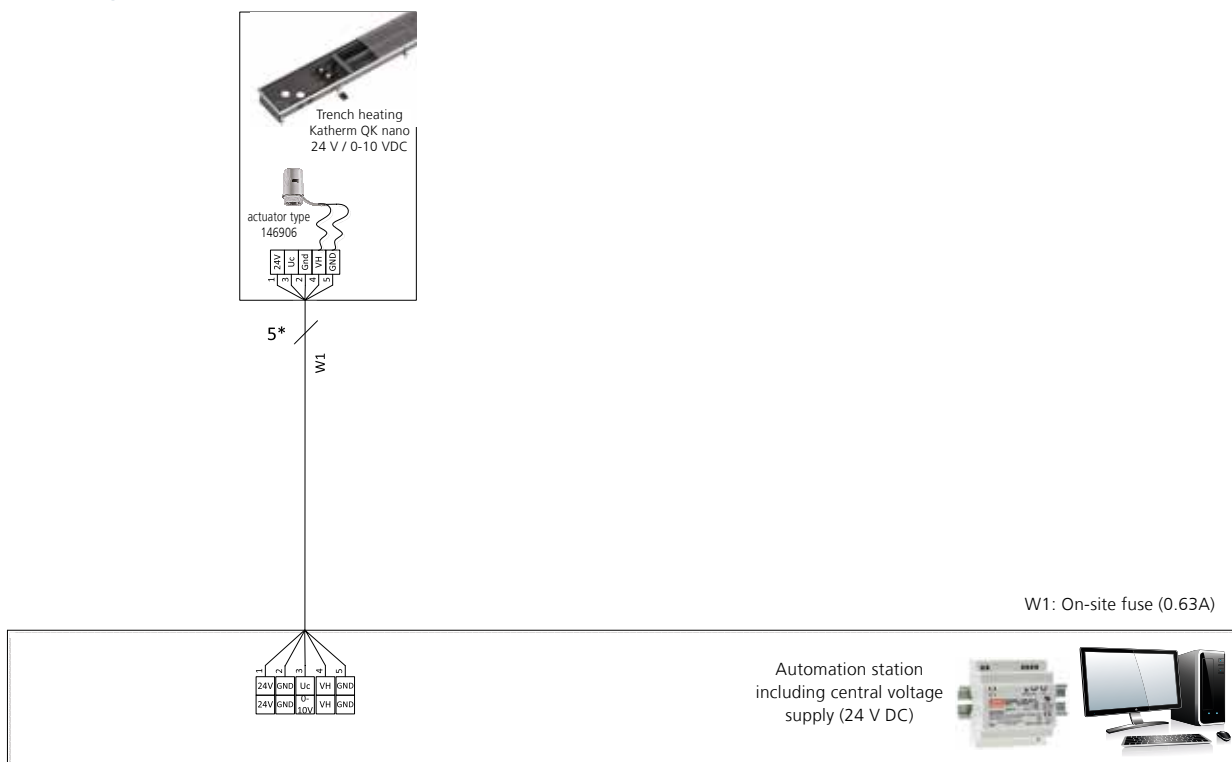
- ▶ The operating voltage must be provided by a central on-site 24 V DC voltage supply.
- ▶ The external voltage supply results in a shortened, space-saving connection area within the trench, producing the same output from a shorter trench length.
- ▶ Kampmann offer a range of switching power units in different output classes as accessories for the voltage supply (24 V DC).
- ▶ The fan automatically switches off in the event of a motor fault.

Table with rating values

| Unit length [mm] | Power consumption [W] at speed setting | | | | |
|------------------|--|-----|-----|-----|------|
| | 20% | 40% | 60% | 80% | 100% |
| 900 | 1 | 1 | 2 | 3 | 5 |
| 1400 | 1 | 1 | 2 | 3 | 6 |
| 1800 | 1 | 2 | 3 | 4 | 7 |
| 2100 | 1 | 2 | 3 | 6 | 8 |
| 2600 | 2 | 3 | 4 | 7 | 12 |

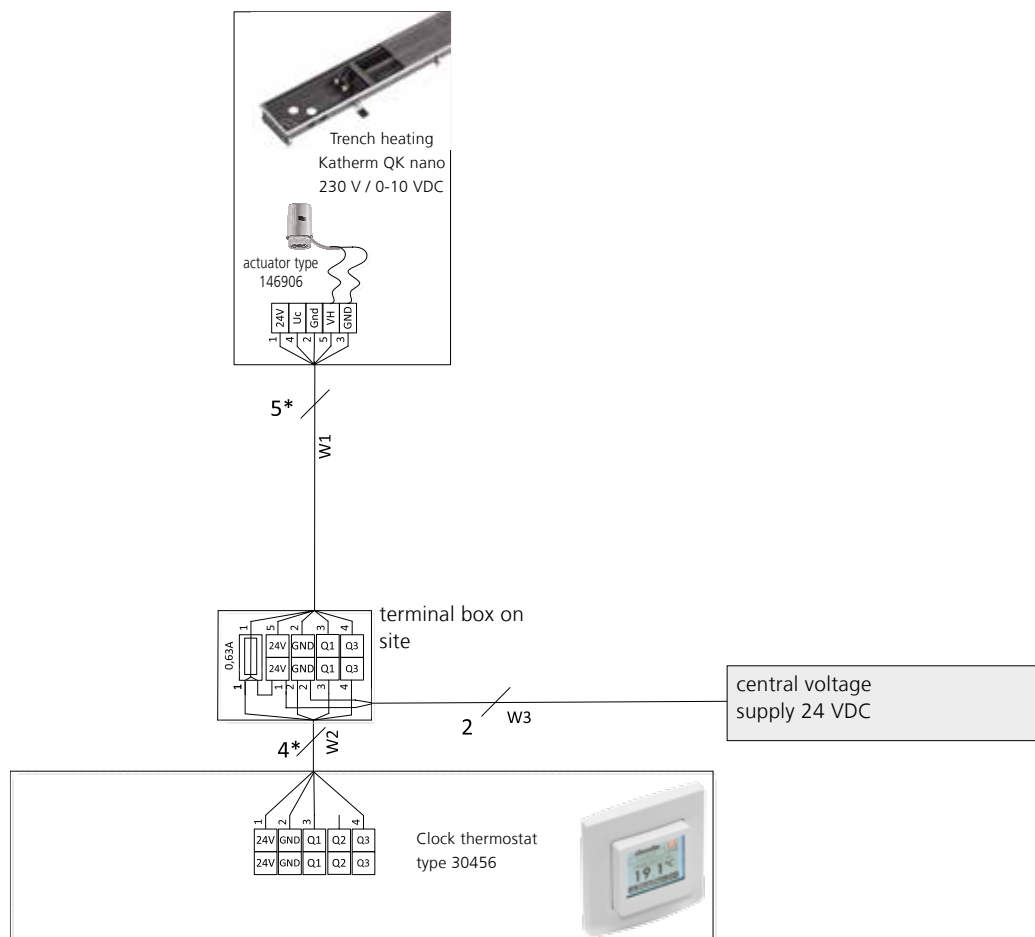
The power and current consumption of the actuators (3 W) is not taken into account.

Cabling - BMS control



* Lay shielded cables (e.g. IY(ST)Y, 0.8 mm), separately from high-voltage cables.
 W1: Voltage supply and control signal for fan and actuator. Fuse for fan 0.63 A.
 Subject to technical modifications: Refer to the control accessory documentation in the event of deviation from the circuit diagrams!

Cabling - Clock thermostat control, type 30456



- * Lay shielded cables (e.g. IY(ST)Y, 0.8 mm), separately from high-voltage cables.
- W1: Voltage supply and control signal for fan (On-site fuse 0,63A) and actuator.
- W2: Voltage supply and control signal for fan and actuator.
- W3: Voltage supply (On-site fuse)

230 V electromechanical model

Design for on-site control of for room regulation with intuitive operation of the trench units.

Product features

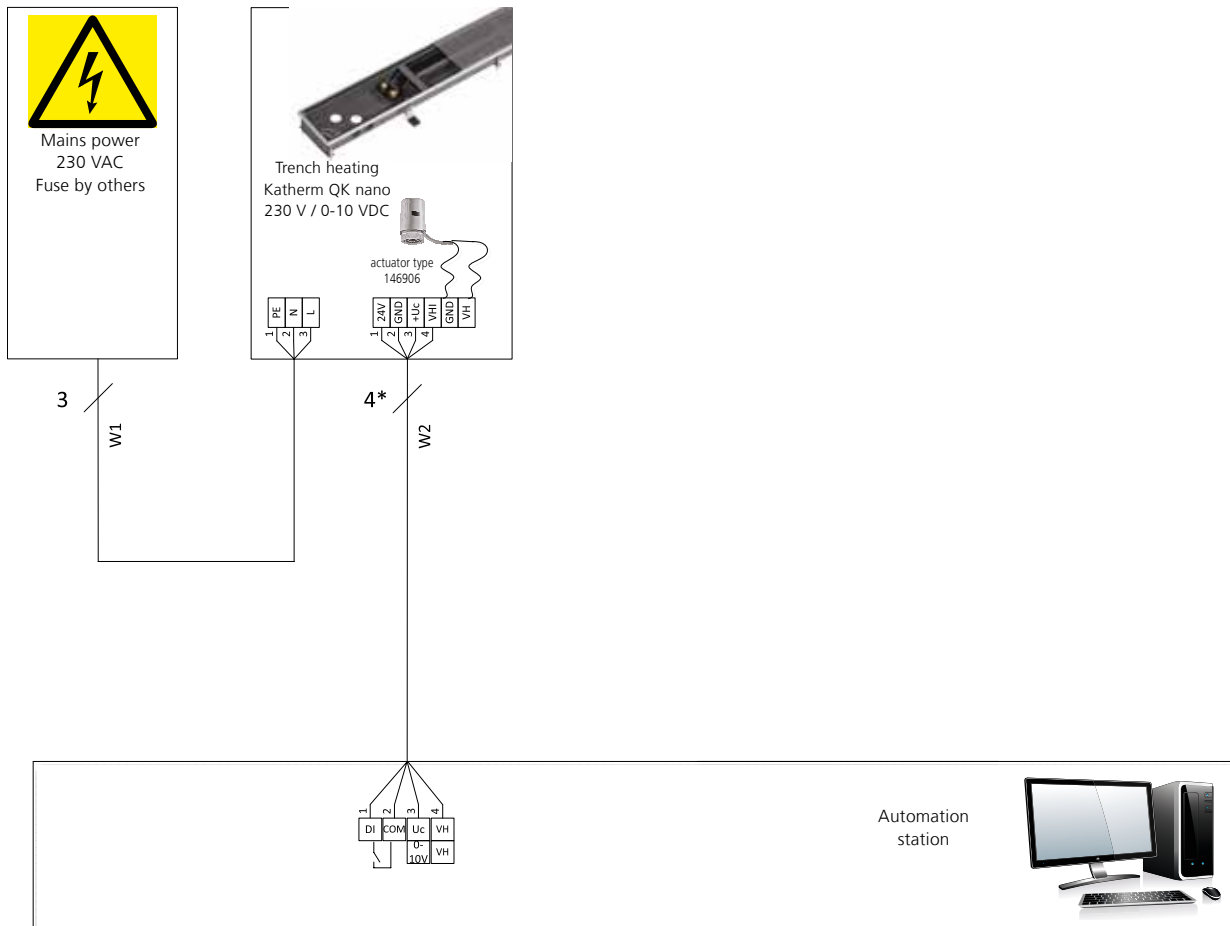
- ▶ The Katherm QK nano features an integral switch power supply to connect to the 230 V AC voltage supply.
- ▶ In the event of a motor fault, the fan automatically switches off and a fault signal is issued at a potential-free contact.
- ▶ Kampmann offers an extensive range of control accessories for all required functions.

Table with rating values

| Unit length [mm] | Power consumption [W] at speed setting | | | | |
|------------------|--|-----|-----|-----|------|
| | 20% | 40% | 60% | 80% | 100% |
| 1100 | 2 | 2 | 3 | 4 | 6 |
| 1600 | 2 | 2 | 3 | 4 | 7 |
| 2000 | 2 | 3 | 4 | 5 | 8 |
| 2300 | 2 | 3 | 4 | 7 | 9 |
| 2700 | 3 | 4 | 5 | 8 | 13 |

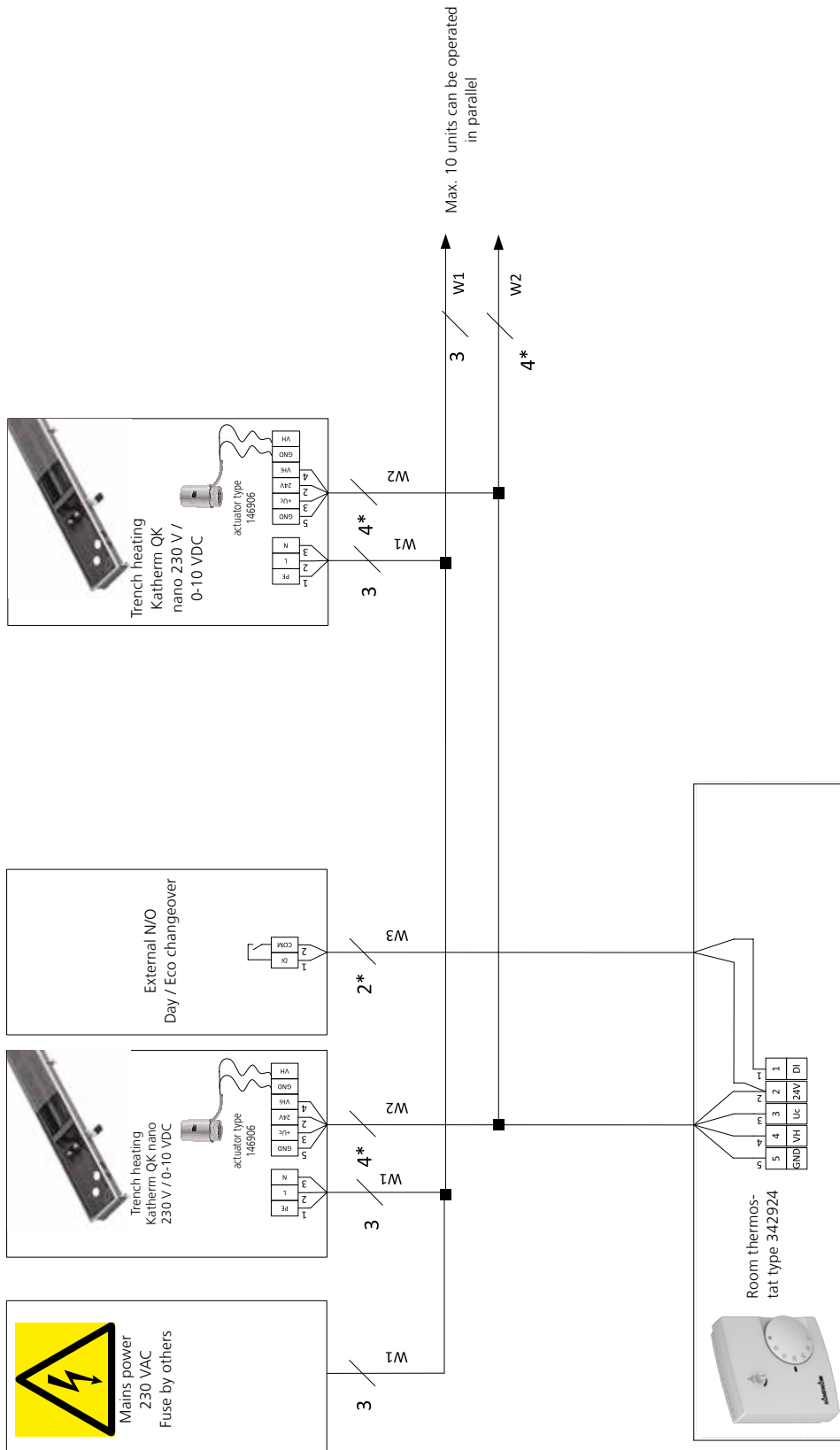
The power and current consumption of the actuators (3 W) is not taken into account.

Cabling - BMS control



* Lay shielded cables (e.g. IY(ST)Y, 0.8 mm), separately from high-voltage cables.
 W1: Power supply
 W2: Control signal for fan and actuator
 Subject to technical modifications: Refer to the control accessory documentation in the event of deviation from the circuit diagrams!

Cabling Room thermostat control, type 342924



* Lay shielded cables (e.g. IY(ST)Y, 0.8 mm), separately from high-voltage cables.

W1: Power supply

W2: Control signal for fan and actuator

W3: Operating mode changeover (optional)

Subject to technical modifications: Refer to the control accessory documentation in the event of deviation from the circuit diagrams!

KaControl model

The all-inclusive solution for room automation and networking

Product features

- ▶ A high-performance parametrised microprocessor is designed to carry out all necessary functions. Each Katherm QK nano unit therefore is equipped with its own "intelligence" and can be operated in groups via Kampmann networks.

Connection to building automation systems

- ▶ Katherm QK nano units with KaControl can be equipped with plug-in communication interfaces for individual room control or for linking into higher-order control systems: BACnet, CANbus, LON, KNX and Modbus. Direct control via an active 0-10 V signal from the on-site building management system is alternatively possible.

Motor protection

- ▶ Any faults with the motor e.g. overloading are analysed by the electronics within the EC motor. This then switches the fan off.

KaControl

The parametrisable KaControl offers a wide range of functions:

- ▶ optional: 5 fan speed settings; manually adjustable
- ▶ valve control for 2-pipe applications for thermoelectric valve actuators 24 V DC OPEN/CLOSE
- ▶ integrated timer program for programming day and week switching functions in the KaController unit
- ▶ motor monitoring with fault signal processing

Table with rating values

| Unit length [mm] | Power consumption [W] at speed setting | | | | |
|------------------|--|-----|-----|-----|------|
| | 20% | 40% | 60% | 80% | 100% |
| 1100 | 2 | 2 | 3 | 4 | 6 |
| 1600 | 2 | 2 | 3 | 4 | 7 |
| 2000 | 2 | 3 | 4 | 5 | 8 |
| 2300 | 2 | 3 | 4 | 7 | 9 |
| 2700 | 3 | 4 | 5 | 8 | 13 |

The power and current consumption of the actuators (3 W) is not taken into account.

KaController operating unit



The "face" of the KaControl building automation system: the KaController operating unit.

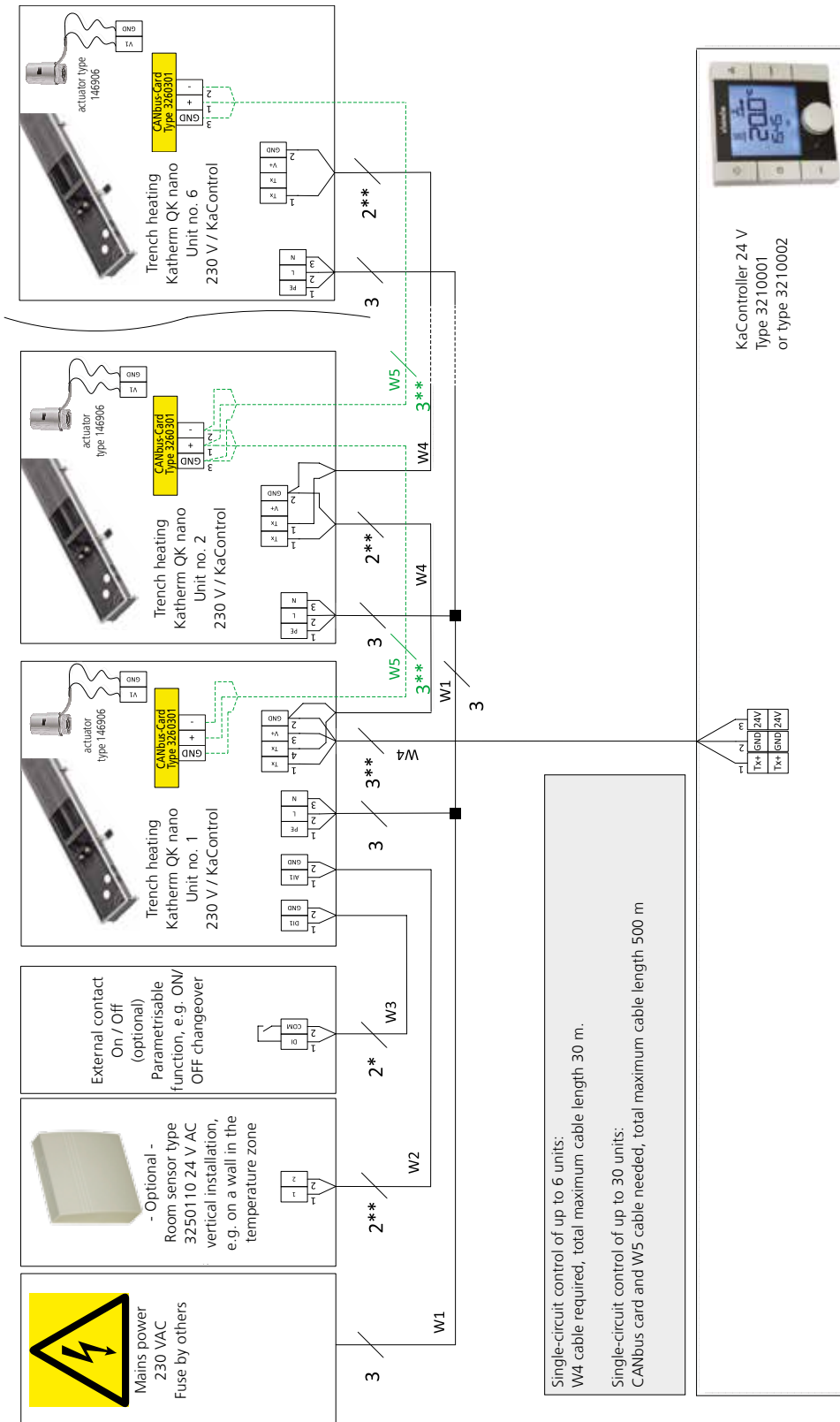
The KaController is very easy to use with its large display and one-touch operation. With the basic principle, "as little as possible, as much as required", even untrained users can intuitively get to grips with the control options.

The basic functions for comfortable interior temperatures are set in a user-friendly way using the KaController.

Product features

- ▶ high-quality designed wall-mounted room operating unit
- ▶ available with or without function buttons on the side
- ▶ plastic housing, colour similar to RAL 9010
- ▶ communication interface to Kampmann T-LAN bus system
- ▶ large display with automatic backlight
- ▶ integral room temperature sensor
- ▶ push-turn navigator dial with endless turn/lock function
- ▶ built-in weekly switching program
- ▶ password-protected parameter level

Cabling - 24 V Open / Close valve, external KaController



* Lay shielded cables (e.g. IY(ST)Y, 0.8 mm), separately from high-voltage cables.

** Lay shielded, paired cables, e.g. CAT5 (AWG23) of at least the same value, separately from high-voltage cables.

W1: Power supply

W2: Analogue input AI1 (optional connection)

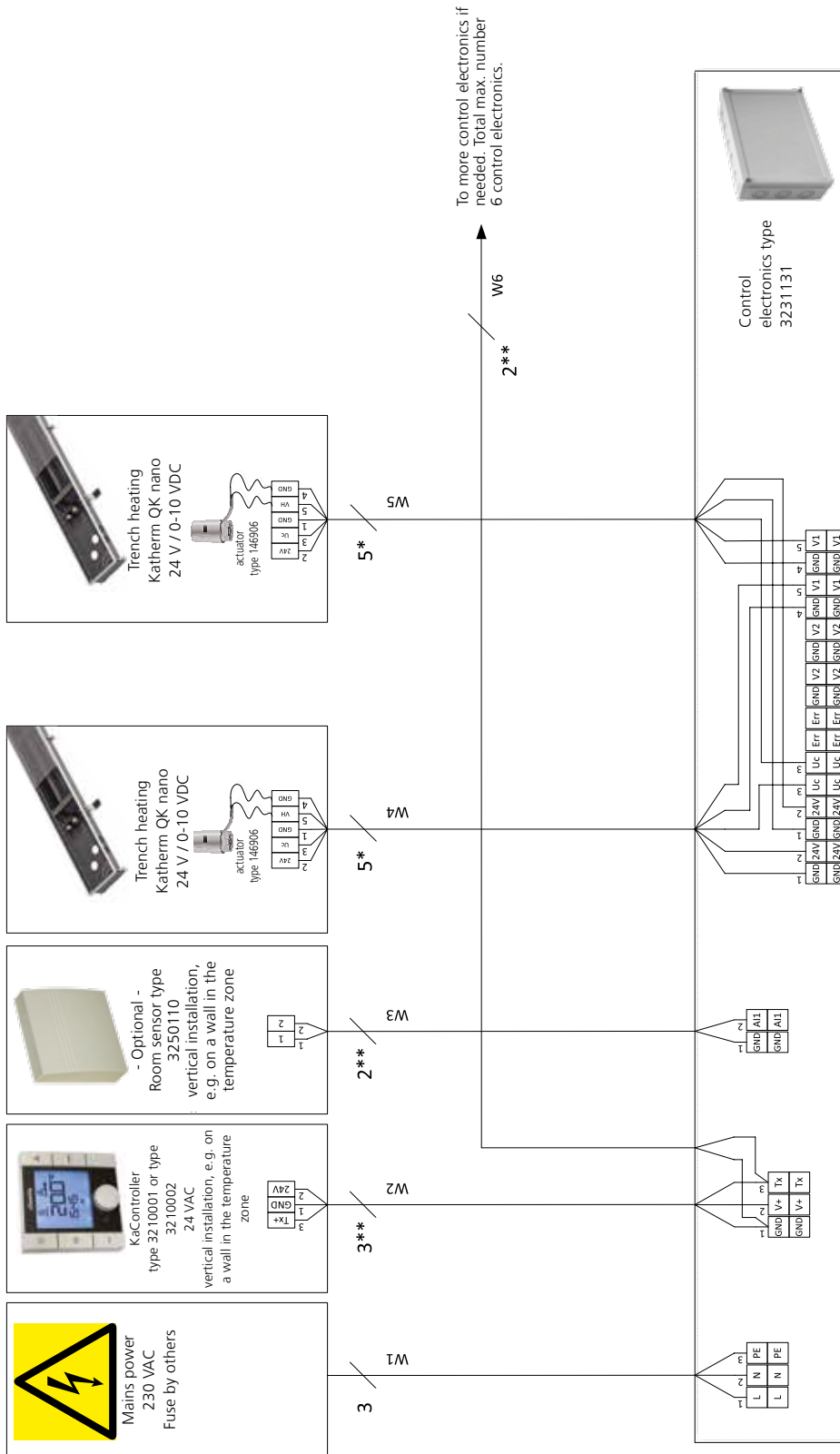
W3: Digital input DI1 (optional connection)

W4: Bus signal (tLan)

W5: Bus signal (CANbus) Only needed in a single-circuit control of up to 30 units.

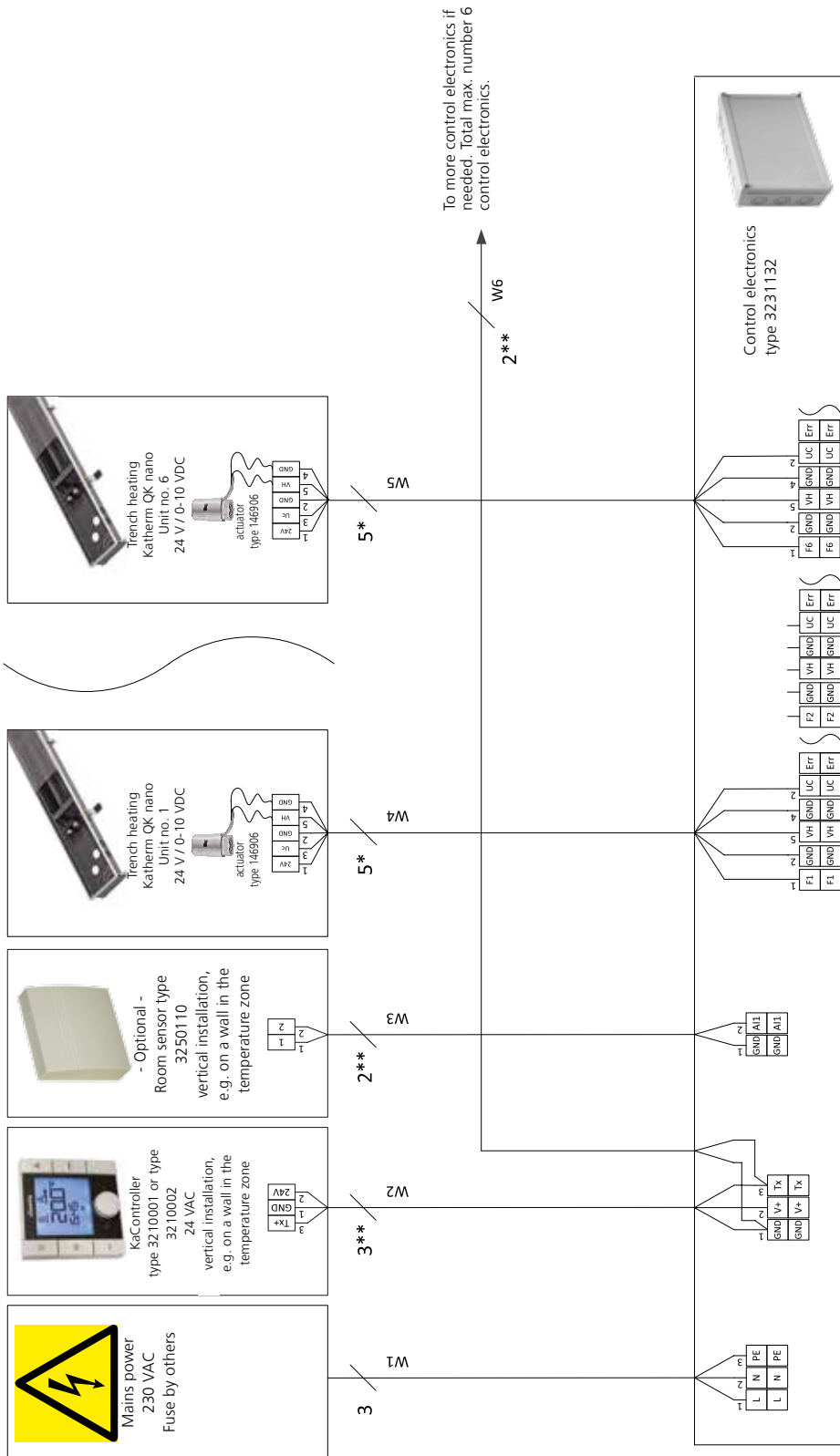
Subject to technical modifications: Refer to the control accessory documentation in the event of deviation from the circuit diagrams!

Cabling with control electronics type 3231131



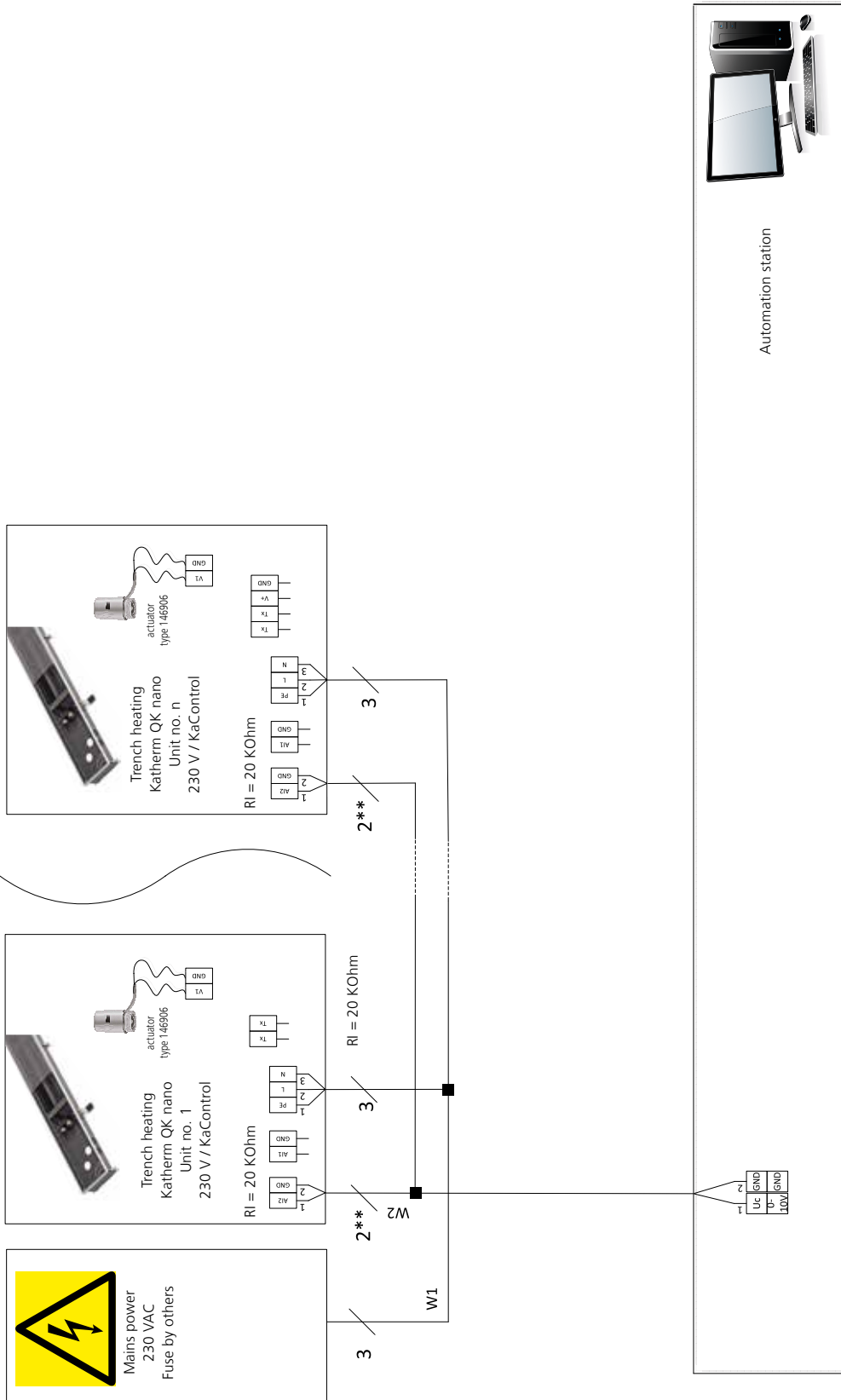
* Lay shielded cables (e.g. IY(ST)Y, 0.8 mm), separately from high-voltage cables.
 ** Lay shielded, paired cables, e.g. CAT5 (AWG23) of at least the same value, separately from high-voltage cables.
 W1: Power supply
 W2: Bus signal (tLan)
 W3: Analogue input AI1 (optional connection)
 W4: Control signal for fan and actuator, total maximum cable length 10 m
 W5: Control signal for fan and actuator, total maximum cable length 10 m
 W6: Bus signal (tLan)
 Subject to technical modifications: Refer to the control accessory documentation in the event of deviation from the circuit diagrams!

Cabling with control electronics type 3231132



* Lay shielded cables (e.g. IY(ST)Y, 0.8 mm), separately from high-voltage cables.
 ** Lay shielded, paired cables, e.g. CAT5 (AWG23) of at least the same value, separately from high-voltage cables.
 W1: Power supply
 W2: Bus signal (tLan)
 W3: Analogue input AI1 (optional connection)
 W4: Control signal for fan and actuator, total maximum cable length 10 m
 W5: Control signal for fan and actuator, total maximum cable length 10 m
 W6: Bus signal (tLan)
 Subject to technical modifications: Refer to the control accessory documentation in the event of deviation from the circuit diagrams!

KaControl cabling - BMS control



** Lay shielded, paired cables, e.g. CAT5 (AWG23) of at least the same value, separately from high-voltage cables.

W1: Power supply

W2: Control signal for fan and actuator.

Subject to technical modifications: Refer to the control accessory documentation in the event of deviation from the circuit diagrams!

05 ▶ Ordering Information

Katherm QK nano

| Trench height | Trench width | Unit length | Grille design | Art. No. |
|--|--------------|-------------|---------------|-------------------------|
| [mm] | [mm] | [mm] | | |
| 24 V electromechanical control | | | | |
| 70 | 165 | 900 | FineLine Q | 44217072 23 1324 |
| | | | FineLine L | 44217074 23 1324 |
| | | 1400 | FineLine Q | 44217072 23 2324 |
| | | | FineLine L | 44217074 23 2324 |
| | | 1800 | FineLine Q | 44217072 23 3124 |
| | | | FineLine L | 44217074 23 3124 |
| | | 2100 | FineLine Q | 44217072 23 3724 |
| | | | FineLine L | 44217074 23 3724 |
| | | 2600 | FineLine Q | 44217072 23 4724 |
| | | | FineLine L | 44217074 23 4724 |
| 230 V electromechanical control | | | | |
| 70 | 165 | 1100 | FineLine Q | 44217072 23 1700 |
| | | | FineLine L | 44217074 23 1700 |
| | | 1600 | FineLine Q | 44217072 23 2700 |
| | | | FineLine L | 44217074 23 2700 |
| | | 2000 | FineLine Q | 44217072 23 3500 |
| | | | FineLine L | 44217074 23 3500 |
| | | 2300 | FineLine Q | 44217072 23 4100 |
| | | | FineLine L | 44217074 23 4100 |
| | | 2700 | FineLine Q | 44217072 23 4900 |
| | | | FineLine L | 44217074 23 4900 |
| KaControl | | | | |
| 70 | 165 | 1100 | FineLine Q | 44217072 23 17C1 |
| | | | FineLine L | 44217074 23 17C1 |
| | | 1600 | FineLine Q | 44217072 23 27C1 |
| | | | FineLine L | 44217074 23 27C1 |
| | | 2000 | FineLine Q | 44217072 23 35C1 |
| | | | FineLine L | 44217074 23 35C1 |
| | | 2300 | FineLine Q | 44217072 23 41C1 |
| | | | FineLine L | 44217074 23 41C1 |
| | | 2700 | FineLine Q | 44217072 23 49C1 |
| | | | FineLine L | 44217074 23 49C1 |

0→

As standard, Katherm QK nano are supplied with a FineLine Q-grille powder coated in RAL 9006 (white aluminium). This can be replaced by one of the following grilles at a surcharge. Please change the two red digits in the article number to select an alternative grille.



Article key for grille finish (Example of Art. no.)

0→
4421707223**1324** → Steel, coated RAL 9006 (standard)
21 → Steel, coated DB 703
22 → Steel, coated RAL 9005
24 → Steel, coated RAL 9007
31 → Stainless steel, natural

The above grilles are shown using a four-colour printing process and thus do not represent an exact reproduction of the original colour.

Accessories

| Figure | Article | Properties | Suitable for | Art. No. |
|---|--|---|--|---------------------|
| Connecting accessories | | | | |
|  | Valve kit Valve body, 24 V actuator and return fitting | Valve body, axial, connection 1/2", pre-settable, return shut-off valve, straight, 1/2" connection, 24 V thermoelectric actuator, connecting piece | all Katherm QK nano | 194000442100 |
|  | Connection kit 2 return fittings | 2 no. return shut-off valves, straight, 1/2" connection, connecting piece, for use on the Katherm QK nano with a central heating circuit distributor | | 194000442101 |
| 24 V electromechanical control accessories | | | | |
|  | Power supply unit for max. 3 Katherm QK nano | 230 V AC/24 V for max. 3 Katherm QK nano, 24 V, for external installation outside the trench unit | Katherm QK nano, 24 V electromechanical model | 196901241593 |
|  | Power supply unit for max. 5 Katherm QK nano | 230 V AC/24 V for max. 5 Katherm QK nano, 24 V, for external installation outside the trench unit | | 196901241595 |
|  | Power supply unit for max. 8 Katherm QK nano | 230 V AC/24 V for max. 8 Katherm QK nano, 24 V, for external installation outside the trench unit | | 196901241596 |
| 230 V electromechanical control accessories | | | | |
|  | Room thermostat Type 342924 | Continuously variable speed controller combined with a thermostat for room temperature-dependent two-point control of Katherm QK nano units. The fan speed is set manually on the speed controller at between 0 and 100%. The thermostats activate the Katherm QK nano at the pre-set speed depending on the temperature. | Katherm QK nano, 230 V electromechanical model | 194000342924 |
| 24 V electromechanical control accessories | | | | |
|  | Clock thermostat Type 30456 | Clock thermostat 24 V, heating/cooling with 2-pipe system, flush-mounted, continuously variable, with LCD operating menu and integrated timer program, heating/cooling changeover by means of external potential-free contact (low voltage) | Katherm QK nano, 24 V electromechanical model | 19600030456 |

[more »](#)

Accessories

| Figure | Article | Properties | Suitable for | Art. No. |
|---|---|--|-------------------------------------|---------------------|
| KaControl Accessories | | | | |
|  | KaController Room control unit with one-key operation | Operating unit, wall-mounted, in high-grade design, plastic housing, colour similar to RAL 9010, large LCD multifunctional display, integrated room temperature sensor, communication interface to Kampmann T-LAN bus system, automatically switching LED backlight, press/turn dial with click stop function, individually adjustable basic display, integrated day, night and week program, password-protected parameter level for C1 control option | Katherm QK nano, KaControl model | 196003210001 |
|  | KaController Room control unit with side operating keys | for quick access to fan settings, operating modes, Eco mode, time and timer program, otherwise as art. no. 196003210001 | Katherm QK nano, KaControl model | 196003210002 |
|  | Room temperature sensor | for wall mounting, IP30 surface-mounted, colour white RAL 9010, alternative to the temperature sensor in the KaController | Katherm QK nano, KaControl model | 196003250110 |
|  | Serial CANBus card | for increasing the number of units in a single-circuit system to a maximum of 30 units, one required per Katherm QK nano unit | Katherm QK nano, KaControl model | 196003260301 |
|  | KaControl control electronics | for operation of max. 2 Katherm QK nano, 24 V model, for external installation outside the trench unit | Katherm QK nano, 24 V model | 196003231131 |
|  | | for operation of max. 6 Katherm QK nano, 24 V model, for external installation outside the trench unit | | 196003231132 |
| Other accessories | | | | |
|  | Installation cover | timber to protect trench during installation, factory-fitted, grilles are packed separately | All Katherm QK nano | 194000101916 |



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