



05/2006

Katherm QK

Quality is our benchmark

Kampmann – the name today is synonymous with innovative and intelligent systems in the fields of heating, cooling and ventilation and, over the last 33 years, the Company has grown into an internationally-renowned group of companies.

Performance and quality are the benchmark for the continued success of Kampmann. Kampmann products are defined by their high performance capability, with guaranteed EN-tested heat outputs, materials fully rated to requirements, first-class workmanship, design-orientated form and shaping and fast delivery times. The quality management system has been documented for many years and is certified by DIN 9001:2000.

Kampmann systems for heating, cooling and ventilation:

- high-output convectors
- underfloor heating and cooling systems
- air handling systems
- door air curtains
- façade heating systems
- air conditioning systems
- radiant ceiling panels
- floor and façade ventilation systems
- fresh air climate with **OXYCELL TECHNOLOGY**

Versatility

The wide product range comprises a mix of standard, non-standard and products tailor-made for specific projects. Kampmann systems are currently proving their reliability and efficiency in industrial, commercial and private buildings around the globe.

Sales

Kampmann places great emphasis on technical discussions and collaboration with architects, project engineers, heating contractors and builders, as well as with wholesalers. In Germany some 50 sales engineers, operating out of six regional offices, and a further 70 sales engineers working in 14 subsidiary offices throughout Europe provide on-the-spot technical assistance.

HQ and production

In addition to the Kampmann headquarters building in Lingen (Ems), there is a second production plant in Gräfenhainichen (Sachsen-Anhalt). The high-quality products are developed, manufactured and sold by a total workforce of over 550 employees in a production area of more than 55,000 m².

Contents

Katherm QK Cross-flow fan convection

Product description	3-7
Accessories	8-9

Controls

Switches and controls	10
Controls combinations	11

Design

Layout	12
Design calculations · Conversion factors · Heat outputs	13

Technical data

Exploded views · Arrangements	14
Water connections · Pipe entry	15-16

Katherm QK 182

Dimensions	17
Heat outputs	17-19

Katherm QK 272

Dimensions	20
Heat outputs	20-22

Katherm QK 340

Dimensions	23
Heat outputs	23-25

Katherm QK 400

Dimensions	26
Heat outputs	26-28

Specifications	29-31
----------------------	-------

Printed on environmentally-friendly, non-chlorine-bleached paper; all rights reserved; our prior permission is required for any reprints, even excerpts; subject to alteration, edition 262/05/06/5 GB



Katherm QK - Cross-flow fan convection, with energy-saving external rotor motors

Katherm QK units operate very quietly with low noise pressure levels yet produce high heat outputs. The ready-to-install ducts are fitted with cross-flow fans to provide additional fan-assisted convection. The fans are positioned parallel to the convector along the entire length of the floor duct.

The new superior asynchronous external rotor motor now operates even more efficiently **yet uses only 50% as much energy as before!** This unit is now available in a more slimline design (182 mm) to meet even more exacting architectural demands.

Katherm QK come in four duct widths for all applications (Katherm QK 182=182 mm wide):

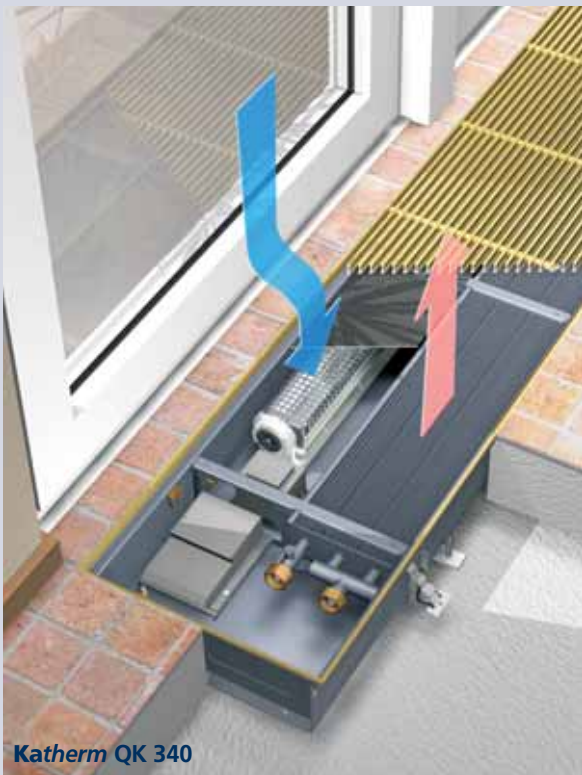
- Katherm QK 182
 - Katherm QK 272
 - Katherm QK 340
 - Katherm QK 400
- Duct height 112 mm
 - **PowerKon high-output convectors** - copper pipes with aluminium fins - with **Eurokonus valve connections** have low water content to guarantee rapid warm-up and versatile controllability.
 - Katherm QK are fitted as standard with a 0-100% controllable, electronic speed controller to control the fan speed between five stages via an integral transformer.

1.42 Katherm QK - Cross-flow fan convection

Ready-to-install floor duct heaters

Type nos. · Grille finishes

Description



Katherm QK 340

1 4 2 0 2 11 1 11 20

Type no.

Length key

- 20 = NP 1250 mm
- 30 = NP 1750 mm
- 40 = NP 2250 mm
- 50 = NP 2750 mm
- 60 = NP 3250 mm

Grille finish (table on right)

- 1 = roll-up grille
- 3 = linear grille

Floor duct height

- 11 = duct height 112 mm

Overall frame width

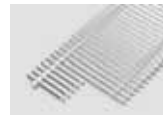
- 2 = overall frame width 182 mm
- 4 = overall frame width 272 mm
- 6 = overall frame width 340 mm
- 8 = overall frame width 400 mm

Art.
group

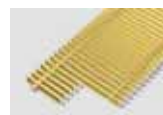
Enter a "0" here

Grille finishes

11 = aluminium,
natural anodized



12 = aluminium,
brass anodized



13 = aluminium,
bronze anodized



14 = aluminium,
black anodized



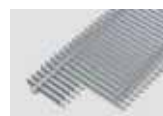
15 = aluminium,
bronze effect



16 = aluminium,
painted basalt grey,
DB 703



31 = stainless steel



32 = stainless steel,
polished



33 = natural brass,
CuZn 44

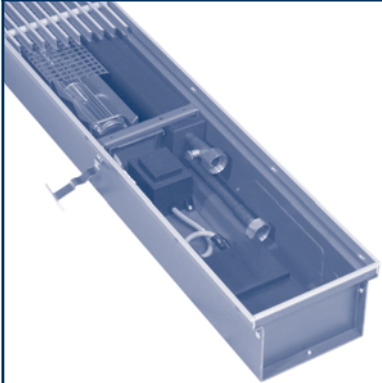
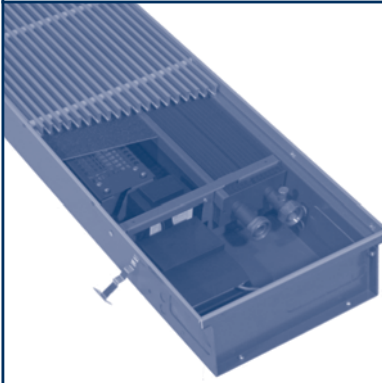
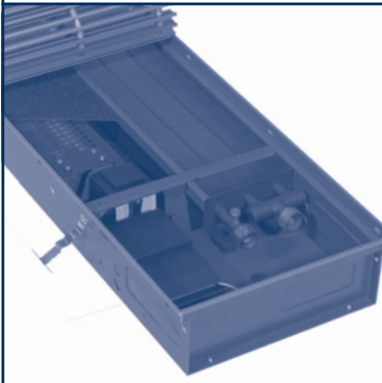
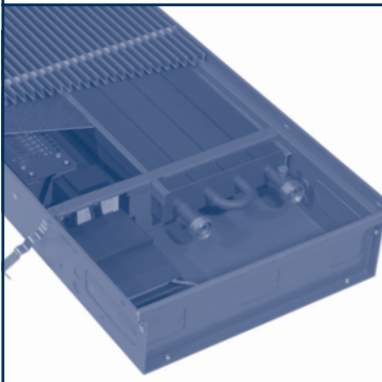


34 = natural brass, CuZn 44,
polished,
oxydation-proof



Further grille finishes on request

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

	Description	Duct width	Duct length	Duct height	Heat output ¹⁾ LPHW 75/65 °C, t _i = 20 °C W	Heat output ¹⁾ LPWW 55/45 °C, t _i = 20 °C W	Dimensions
	Katherm QK 182	182 mm	NP 1250-NP 3250 mm NP = standard range (500 mm increments) Non-standard lengths are also possible	112 mm	809 - 2795	466 - 1610	p 17
	Katherm QK 272	272 mm	1250-NP 3250 mm NP = standard range (500 mm increments) Non-standard lengths are also possible	112 mm	1082 - 3278	623 - 1888	p 20
	Katherm QK 340	340 mm	NP 1250-NP 3250 mm NP = standard range (500 mm increments) Non-standard lengths are also possible	112 mm	1330 - 4030	766 - 2321	p 23
	Katherm QK 400	400 mm	NP 1250-NP 3250 mm NP = standard range (500 mm increments) Non-standard lengths are also possible	112 mm	1765 - 5349	1017 - 3081	p 26

¹⁾Heat output at medium fan speed 3

1.42 Katherm QK - Cross-flow fan-assisted convection

Ready-to-install floor duct convectors

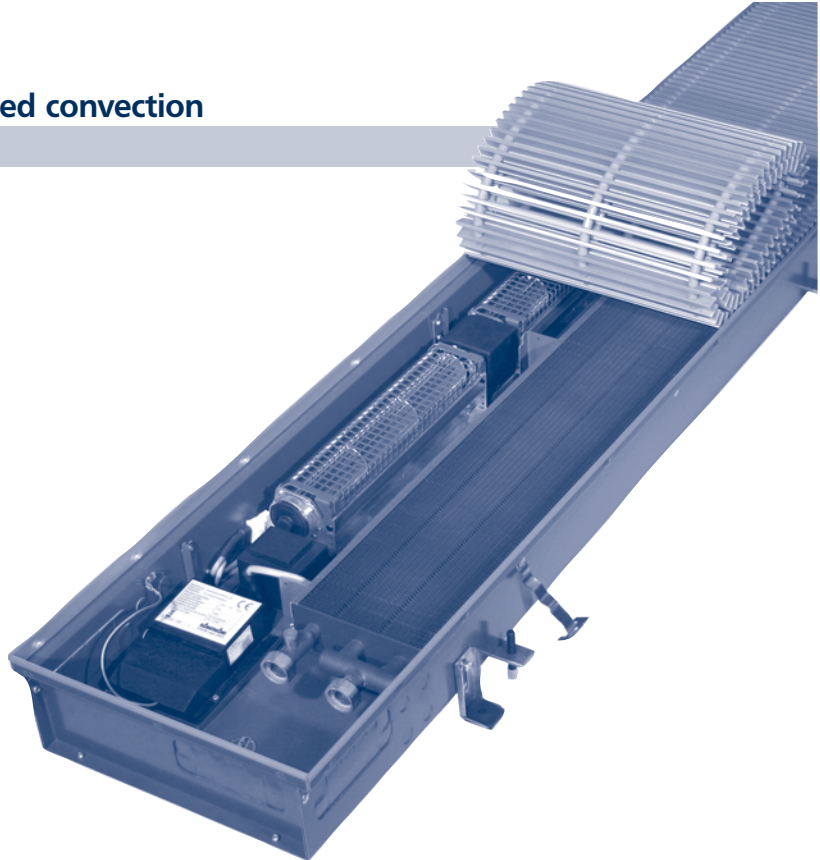
Description

Katherm QK – Cross-flow fan-assisted convection

Katherm QK operate “whisper-quietly” with low noise pressure levels yet produce exceptionally high heat output levels. To provide additional fan-assisted convection, the units are fitted with a cross-flow fan along the entire length of the duct. The heat output produced by the units is thus markedly higher than of comparable natural convection units. Secondary air from the room is drawn in by induction and increases the heat output even further.

Cold air within the body of the room is effectively dispersed and the whole room is heated up without intrusive fan noise. The cross-flow fans are designed in such a way that they produce a high volume of air and correspondingly high heat output at low fan speed with low noise levels. Katherm QK units come in four duct widths, each with a different output level:

- Katherm QK 182
- Katherm QK 272
- Katherm QK 340
- Katherm QK 400

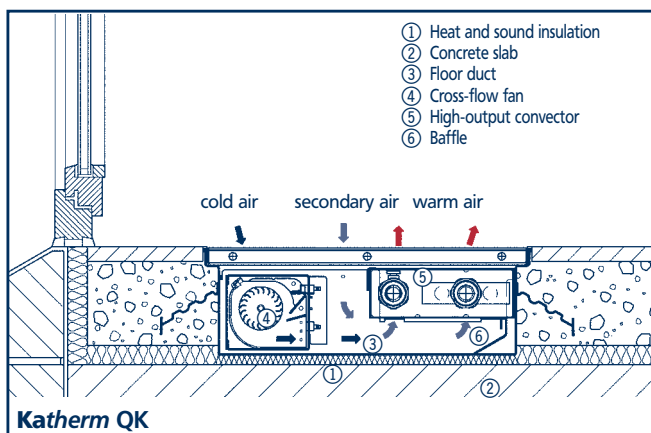


Fan data

Duct length	1250	1750	2250	2750	3250
Fan motors	1	2	2	3	3
Impellers	2	3	4	5	6
No. of speed controllers per Katherm QK	1	1	1	1	1

Operation

Cold air falls into the duct on the window side, or is drawn in by the cross-flow fan, and passes through the convector. Baffles underneath the convector distribute the air evenly along the entire length of the convector, thereby using the whole surface of the convector in the best possible way. The heated air is discharged, gently and turbulence-free, into the body of the room through the linear or roll-up grille.



Katherm QK - the engineering

- cross-flow fan with asynchronous outer rotor motor for “whisper-quiet” operation and energy-savings
- with Eurokonus valve fitting
- sendzimir galvanized steel duct with all internal parts painted graphite grey
- self-supporting design with height adjustment feet and anchoring lugs for use in screeded floors
- 112 mm duct height
- PowerKon high-output convector with copper pipes and aluminium fins, painted graphite grey; low water content ensures fast warm-up and versatile control
- low noise pressure levels (design at medium fan speed is recommended)
- economical to use at LPHW 75/65 °C and also with lower temperatures of LPWW 50/40 °C
- optimum cold air screening along windows
- G2 filter in accordance with DIN EN 779 with frame available as an extra; simple to fit, easy to wash or vacuum clean
- supplied as standard with 0-100% variable fan speed controller, to switch fan speed between 5 stages via integral transformer.
- speed controller can be adjusted manually or by BMS (continuous 0-10V signal required)

Description

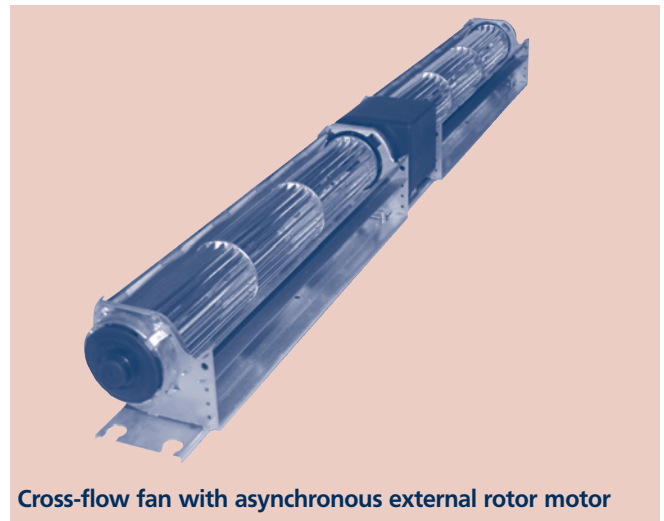
Asynchronous outer rotor motor

To enhance their performance even further, Kampmann **Katherm QK** are now fitted with asynchronous outer rotor motors:

- low noise pressure levels
- 50% energy savings through superior engineering
- higher efficiency levels

Standard (NP) and non-standard (MP) ranges

Katherm QK standard (NP) units come in lengths of 1250mm to 3250 mm, rising in 500mm increments. Non-standard (MP) units can be tailor-made to any length required.



Cross-flow fan with asynchronous external rotor motor

Description

PowerKon – the new generation of convectors

The greater the surface area, the higher the output - the new Kampmann copper/aluminium convector! Corrugated fins create a larger surface area in comparison with conventional convectors. This results in greater performance whilst the external dimensions of the convector remain unchanged.

The convector itself is now also stronger and more rigid due to the new multiple pressing process and the pipe/fin joint has also been further improved.



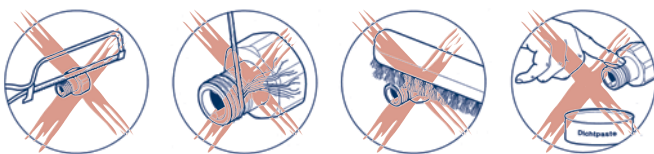
Guaranteed heat outputs

Katherm QK heat outputs have been tested at the HLK Standard Test Centre in Stuttgart in accordance with DIN 4704/DIN EN 442.

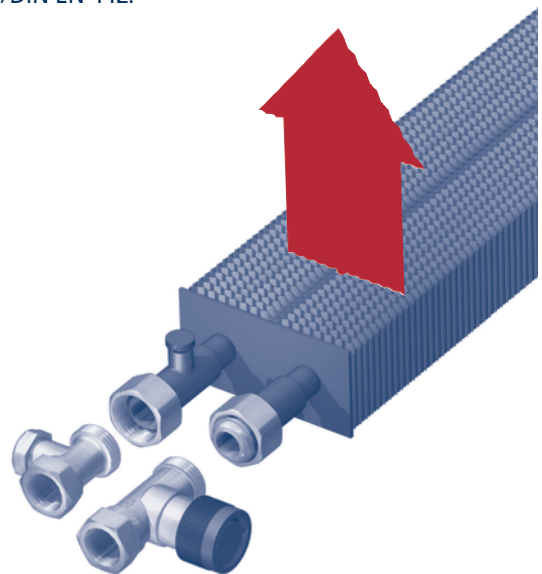
The Eurokonus valve fitting – simple to use and saves you money!

Eurokonus valve fittings fit all valves which comply with DIN V 3838 i.e. all valves from reputable manufacturers.

The key benefit is its simplicity of use: Eurokonus valve fittings require no additional sealing. Just screw in - and the job's done! This saves time and money, not forgetting the reduced fitting/testing time and savings in terms of material. Venting is also much simpler - instead of a "venting flag", there is a rigid venting screw in the fitting itself.



Eurokonus: no more sealing!

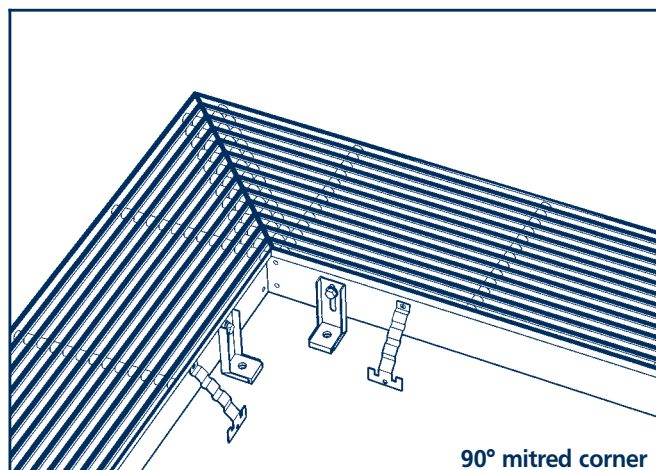


PowerKon convector with Eurokonus valve fitting

1.42 Katherm QK - Cross-flow fan-assisted convection

Ready-to-install floor duct convectors

Accessories



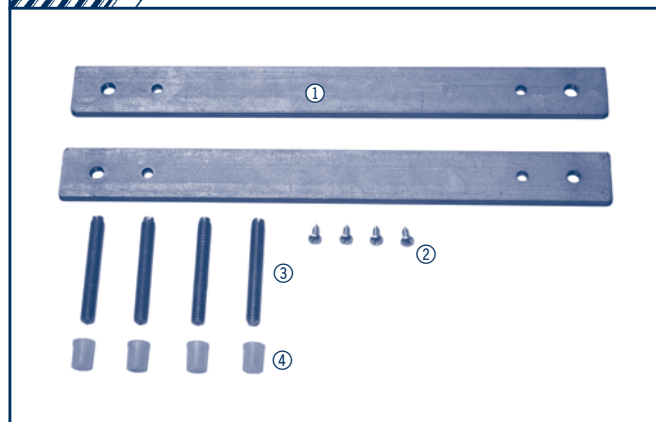
90° mitred corner

Mitred corners

The grille bars are cut on the mitre, the floor ducts are slip-jointed together and the convectors are joined using woven stainless steel flexible connections; mitred corners have to be manufactured to exact dimensions including duct lengths, diagonals, angles and an indication of which is room/window side.

Type numbers

Grille type	Mitre	QK 182	QK 272	QK 340	QK 400
Roll-up grille	90°	142983	142980	142981	142982
	non-90 degree	142973	142970	142971	142972
Linear grille	90°	242983	242980	242981	242982
	non-90 degree	242973	242970	242971	242972



Adjustment feet for a 1250mm unit are shown (2 sets)

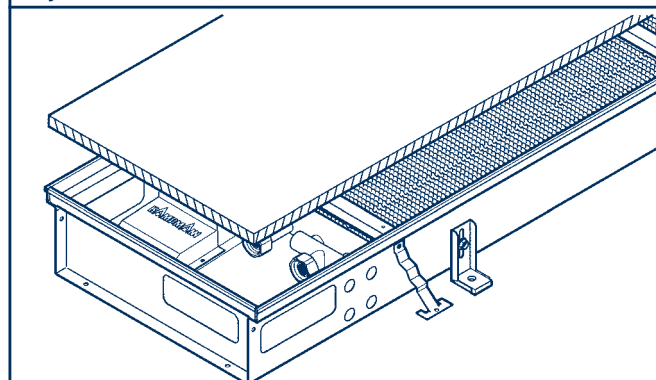
Raised floor height adjustment feet (optional)

for use with Katherm QK, each set comprising:

- 1 x iron bar ①,
- 2 x screws ②,
- 2 x M8 adjustment screws ③ with sound insulation ④;

Type numbers

Katherm	QK 182	QK 272	QK 340	QK 400
Type	14231	14251	14271	14281

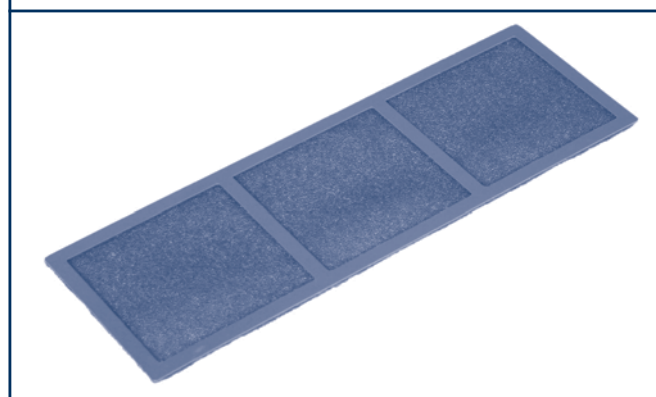


Installation cover

If required, all Katherm QK units can be supplied with their grilles separately packed to prevent them becoming soiled or damaged on site prior to fitting. The floor duct is supplied with a disposable wooden installation cover.

Type numbers

Katherm	QK 182	QK 272	QK 340	QK 400
Type	142987	142984	142985	142986



Filter for air inlet

for use on the air inlet side, complete with frame

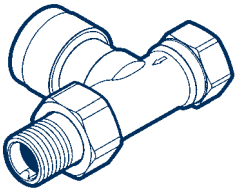
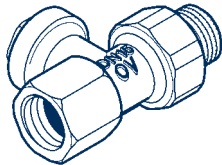
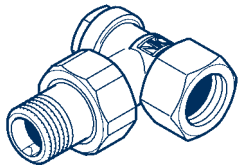
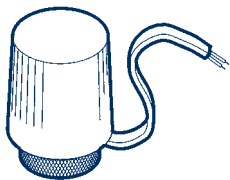
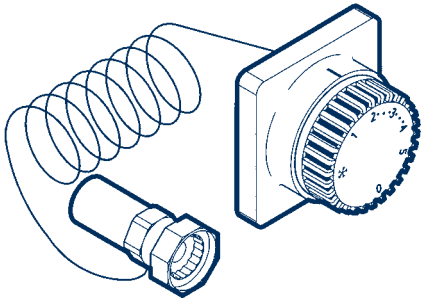
Type numbers

Katherm	QK 182	QK 272	QK 340	QK 400
Type	14208 *	14209 *	14210 *	14210 *

*Insert length key: NP 1250 = 0, NP 1750 = 1, NP 2250 = 2, NP 2750 = 3, NP 3250 = 4

Article no. for DataNorm/EDV entry : 194 000 (insert type no.)
142 000 (insert filter type no.)

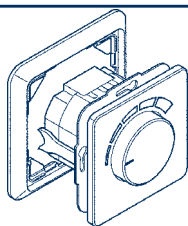
Accessories

	1/2" valve body, type 146909 A straight valve body, low noise, optimum flow with Niro steel spindle and double o-ring seal; for use with Katherm QK when using actuator type 146905 and thermostatic valve (with remote sensor) type 146907, complete with cap <table border="1"> <tr> <td>max. operating temperature</td><td>120 °C</td></tr> <tr> <td>max. operating pressure</td><td>10 bar</td></tr> </table>	max. operating temperature	120 °C	max. operating pressure	10 bar						
max. operating temperature	120 °C										
max. operating pressure	10 bar										
	1/2" Return shut-off valve, type 145952, straight Brass valve within nickel-plate housing, with o-ring seal <table border="1"> <tr> <td>max. operating temperature</td><td>120 °C</td></tr> <tr> <td>max. operating pressure</td><td>10 bar</td></tr> </table>	max. operating temperature	120 °C	max. operating pressure	10 bar						
max. operating temperature	120 °C										
max. operating pressure	10 bar										
	1/2" Return shut-off valve, type 145953, angled Brass valve with nickel-plate housing, with o-ring seal; not suitable for use with Katherm QK 182 and QK 272 <table border="1"> <tr> <td>max. operating temperature</td><td>120 °C</td></tr> <tr> <td>max. operating pressure</td><td>10 bar</td></tr> </table>	max. operating temperature	120 °C	max. operating pressure	10 bar						
max. operating temperature	120 °C										
max. operating pressure	10 bar										
	Thermoelectric actuator 230 V, type 146905 Actuator for use with valve body type 146909 <table border="1"> <tr> <td>Power intake</td><td>approx. 5 w</td></tr> <tr> <td>Cable length</td><td>ca. 1900 mm</td></tr> <tr> <td>Height</td><td>69 mm</td></tr> <tr> <td>Diameter</td><td>42 mm</td></tr> <tr> <td>Connecting thread</td><td>30 x 1,5 mm</td></tr> </table>	Power intake	approx. 5 w	Cable length	ca. 1900 mm	Height	69 mm	Diameter	42 mm	Connecting thread	30 x 1,5 mm
Power intake	approx. 5 w										
Cable length	ca. 1900 mm										
Height	69 mm										
Diameter	42 mm										
Connecting thread	30 x 1,5 mm										
	Thermostatic head with remote sensor, type 146907 Liquid-filled thermostat with 5 m capillary tube; maximum and minimum temperatures are limited or blocked; the capillary tube must be laid within a Ø 23 mm pipe <table border="1"> <tr> <td>Housing</td><td>white</td></tr> <tr> <td>Temp. range</td><td>+8 to +27 °C</td></tr> <tr> <td>Max. sensor temperature</td><td>+50 °C</td></tr> <tr> <td>Frost protection</td><td>below +6 °C</td></tr> </table>	Housing	white	Temp. range	+8 to +27 °C	Max. sensor temperature	+50 °C	Frost protection	below +6 °C		
Housing	white										
Temp. range	+8 to +27 °C										
Max. sensor temperature	+50 °C										
Frost protection	below +6 °C										

1.42 Katherm QK - Cross-flow fan-assisted convection

Controls

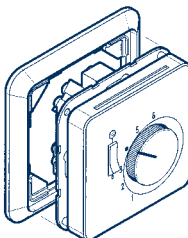
Switches and controllers



Fan speed controller, type 146936

Fan speed is set using dial; controls up to 10 Katherm QK parallel between 5 stages

Housing	Jung system, flush-mounted, white
Voltage	230 V/50 Hz
Protection	IP 20
Dimensions W x H x D	65 x 65 x 42 mm



Room thermostat, type 146927

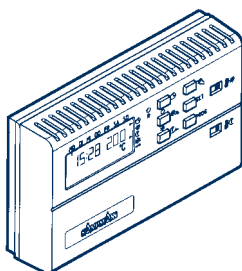
Setting dial; main on/off switch with indicator light, thermal setback and additional terminal for night setback (4 K) using external time switch

Housing	Jung system, flush-mounted, white
Voltage	230 V/50 Hz
Temperature range	5 - 30 °C
Max. amperage	4 A
Protection	IP 20
Dimensions W x H x D	65 x 65 x 42 mm

Unit shown on p 11 at top

Double frame, type 146929

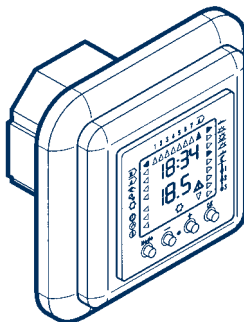
manufactured by Jung, white; for mounting type nos. 146936 and 146927 together



Clock thermostat, type 146910

A clock and room thermostat in one; precise digital clock for week or day programming of room temperature and setback temperature; party function (setback interval override) is also possible; to set day or night temperature

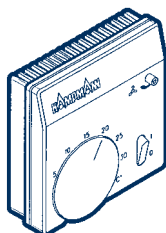
Voltage	230 V/50 Hz
Temperature range	10 - 30 °C
Max. amperage	4 A
Protection	IP 20
Dimensions W x H x D	140 x 70 x 30 mm



Clock thermostat, type 146932

Digital clock and room thermostat in one; with electronic 2-point control; display showing set and actual temperatures; easy to use 4-button control; day or week programming; party function and frost protection

Housing	flush-mounted, white
Voltage	230 V/50 Hz
Temperature range	5 - 30 °C
Protection	IP 20
Power reserve	approx. 1 hour
Contact	change-over contact, single-ended
Max. amperage	2 A
Dimensions W x H x D	84 x 84 x 18 mm



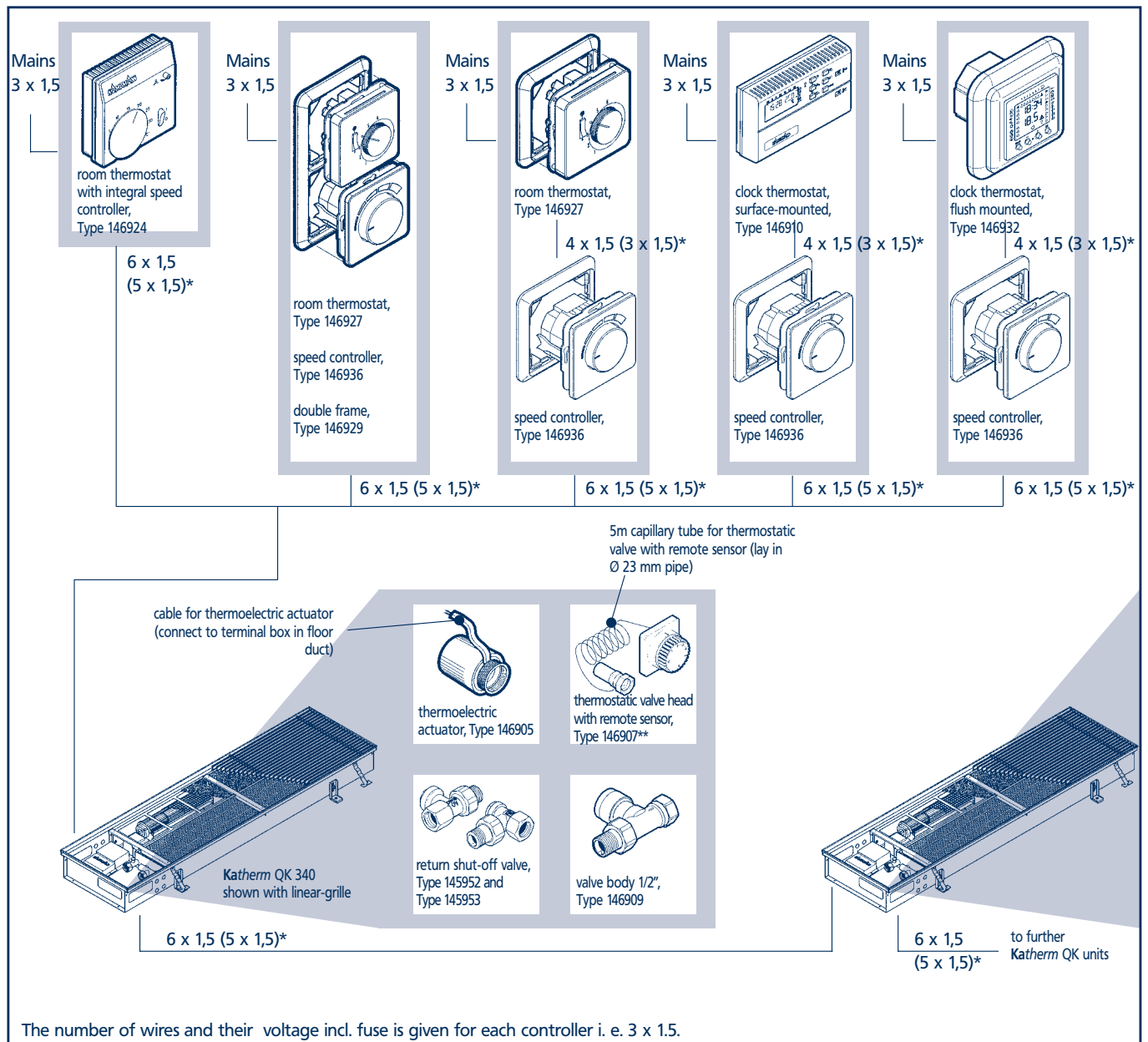
Room thermostat with integral speed controller, type 146924

With thermal setback and on/off switch; room stat and speed controller in one for continuous regulation of speed controller electronics

Housing	surface-mounted, white
Voltage	230 V/50 Hz
Temperature range	5 - 30 °C
Max. amperage	4 A
Switching differential	0,6 K
Protection	IP 30
Dimensions W x H x D	70 x 70 x 35 mm

Article no. for DataNorm/EDV entry: 194 000 (insert type no.)

Controller combinations



*The numbers in brackets should be used if no thermoelectric actuator is being used i.e. the use of thermostatic valve head type 146907

**Natural convection-only without the use of fan - controlled using room thermostat

Maximum no. of Katherm QK per thermostat

The maximum power from a room stat or clock thermostat may not be less than the total power uptake from the units connected to it (see p 10).

The total power uptake is calculated as follows::

Σ power uptake
 = no. of **Katherm QK 1250** • 0,11 A
 + no. of **Katherm QK 1750** • 0,17 A
 + no. of **Katherm QK 2250** • 0,22 A
 + no. of **Katherm QK 2750** • 0,28 A
 + no. of **Katherm QK 3250** • 0,33 A
 + no. of thermoelectric actuators • 0,32 A

Article no. for DataNorm/EDV entry: 194 000 (insert type no.)

1.42 Katherm QK - Cross-flow fan-assisted convection

Design

Layout

Noise level

When designing this system, it should be noted that some noise may occur at higher fan speeds. Sound pressure and power levels are given in the tables on pages 17 to 28. We recommend that the Katherm QK system is designed to operate at medium fan speed.

The sound pressure level at a distance of 2 m is based on a hemispherical model (sound source at floor level). If it is based on a quarter spherical model, the noise pressure level must be increased by approx. 3 dB(A).

As the sound level is not only due to the Katherm QK, but is also influenced by the acoustic characteristics of the room, the actual levels may deviate somewhat in practice from the theoretical levels.

Conversion to other water temperatures and fan speeds

If the design water temperatures and fan speeds are not listed in the tables on pages 17 to 28, these can be converted using the diagrams and formulae on this page; a design is worked through on p 13 by way of example

Formulae

$$\Delta t = \frac{t_{w1} + t_{w2}}{2} - t_L \quad (1)$$

$$Q = f_w \cdot Q_n \quad (2)$$

$$\Delta t_w = t_{w1} - t_{w2} \quad (3)$$

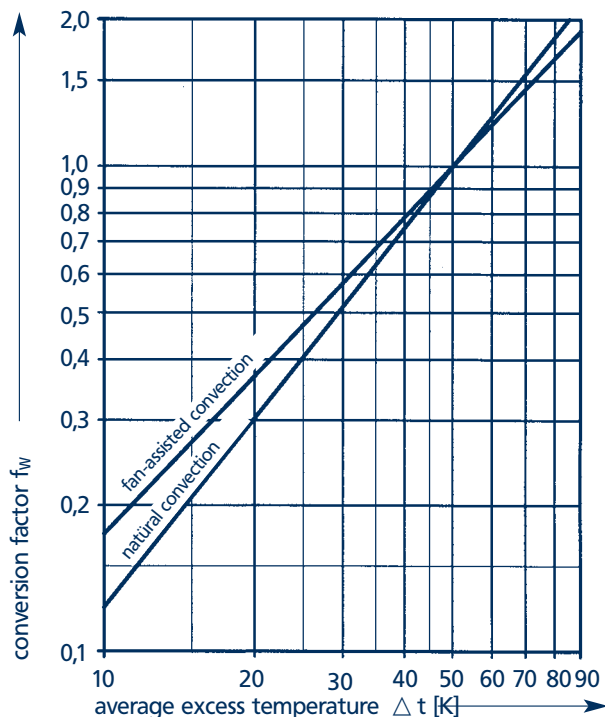
$$m = \frac{Q}{\Delta t_w} \cdot 0,86 \quad (4)$$

$$R = \frac{r \cdot K}{1000} \quad (5)$$

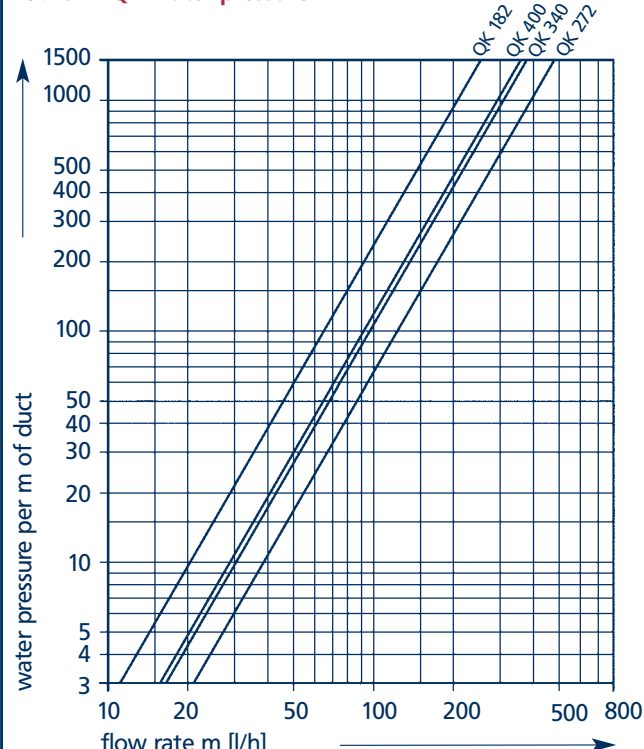
Abbreviations

t_{w1}	[°C]	= flow temperature
t_{w2}	[°C]	= return temperature
Δt_w	[K]	= water temperature difference
Δt	[K]	= average temperature
t_L	[°C]	= room temperature
Q	[W]	= heat output
Q_n	[W]	= standard heat output at LPHW 75/65 °C, $t_L = 20$ °C
f_w	[-]	= heat output conversion factor
m	[l/h]	= flow rate
R	[Pa]	= water pressure
r	[Pa/m]	= water pressure per m duct
K	[mm]	= floor duct length

Heat output conversion factors f_w



Katherm QK water pressure



Heat output calculation and conversion

Heat output calculation (MP non-standard range)

To calculate the heat output of non-standard (MP) units, the heat output of the next standard (NP) cross-flow fan-assisted unit down is added to the "natural convection" heat output of the remaining finned length.

The heat output of non-standard (MP) Katherm QK units between 1250 mm and 3500 mm can be calculated as follows:

$$Q_{MP} = Q_{NP \text{ n.c.}} + q_{\text{m nat.conv.}} \cdot (K_{MP} - K_{NP \text{ n.c.}}) \cdot 1/1000 \quad (6)$$

Formulae

Q_{MP}	[W]	= heat output (stand. range NP)
$Q_{NP \text{ n.c.}}$	[W]	= heat output of next standard length (NP) down
$Q_{\text{per m nat.conv.}}$	[W/m]	= heat output per m finned convector operating at natural convection at LPHW 75/65 °C, $t_L = 20$ °C = 210 w/m for QK 182 = 289 w/m for QK 272 = 393 w/m for QK 340 = 490 w/m for QK 400.
K_{MP}	[mm]	= duct length (non-standard MP)
$K_{NP \text{ n.c.}}$	[mm]	= duct length of next standard length down (NP)

Calculation 1: Katherm QK 272

Given:

Floor duct length NP 1750 (standard range)
Flow temperature t_{w1} = 70 °C
Return temperature t_{w2} = 60 °C
Room temperature t_L = 20 °C
required fan speed = 3

Required:

Heat output Q in w; water pressure R in Pa

Calculation:

$$\Delta t = \frac{t_{w1} + t_{w2}}{2} - t_L \quad (1) = \frac{70 + 60}{2} - 20 = 45 \text{ K}$$

using heat output f_w conversion factor diagram on page 12:

$$\Delta t = 45 \text{ K: } f_w = 0.89 \text{ (fan-assisted convection)}$$

using the table on page 21 showing heat output of Katherm QK 272 at fan speed 3, using LPHW 75/65 at 20 °C:
floor duct length 1750 mm: $Q_n = 1631 \text{ w}$

$$Q = f_w \cdot Q_n \quad (2) = 0.89 \cdot 1631 = 1452 \text{ w}$$

$$\Delta t_w = t_{w1} - t_{w2} \quad (3) = 70 - 60 = 10 \text{ K}$$

$$m = \frac{Q}{\Delta t_w} \cdot 0.86 \quad (4) = \frac{1452}{10} \cdot 0.86 = 125 \text{ l/h}$$

From water pressure diagram:

QK 272 curve per m = 125 l/h: $r = 100 \text{ Pa/m}$

$$R = \frac{r \cdot K}{1000} = \quad (5) = \frac{100 \cdot 1750}{1000} = 175 \text{ Pa}$$

Result

Heat output $Q = 1452 \text{ w}$
Water pressure $R = 175 \text{ Pa}$

Calculation 2: Katherm QK 400

Given:

Floor duct length MP 2600 (non-standard range)
Flow temperature t_{w1} = 75 °C
Return temperature t_{w2} = 65 °C
Room temperature t_L = 20 °C
required fan speed = 2

Required:

Heat output Q_{MP} in w

Calculation:

Floor duct length (non-standard MP): $K_{MP} = 2600 \text{ mm}$
Duct length of next standard length down: $K_{NP \text{ n.c.}} = 2250 \text{ mm}$

Using technical data table on page 27:

heat output $Q_{NP \text{ n.c.}}$ at LPHW 75/65 °C, $t_L = 20$ °C
at fan speed 2: $Q_{NP \text{ n.c.}} = 3196 \text{ w}$

Heat output per metre finned convector length, natural convection, using LPHW 75/65 °C, $t_L = 20$ °C; from page 26:

$$q_{\text{per m. nat. conv.}} = 490 \text{ w/m}$$

$$Q_{MP} = Q_{NP \text{ n.c.}} + q_{\text{per m nat.conv.}} \cdot (K_{MP} - K_{NP \text{ n.c.}}) \cdot 1/1000 \quad (6)$$

$$Q_{MP} = 3196 + 490 \cdot (2600 - 2250) \cdot 1/1000$$

$$Q_{MP} = 3368 \text{ w}$$

Result

Heat output $Q_{MP} = 3368 \text{ w}$

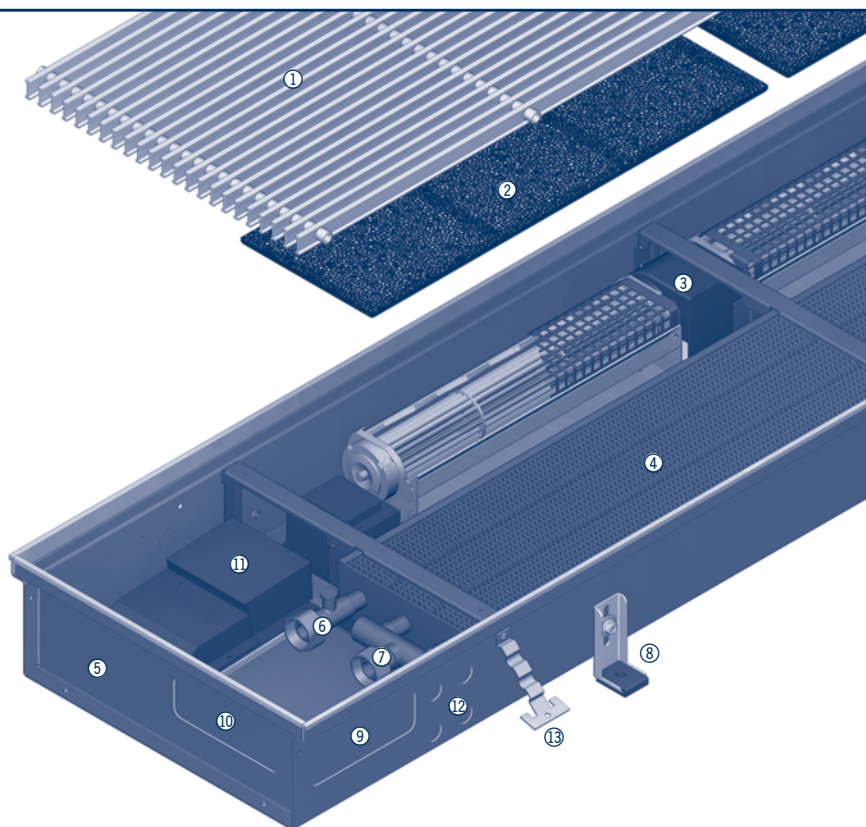
1.42 Katherm QK - Cross-flow fan-assisted convection

Technical data

Exploded views · Unit arrangements

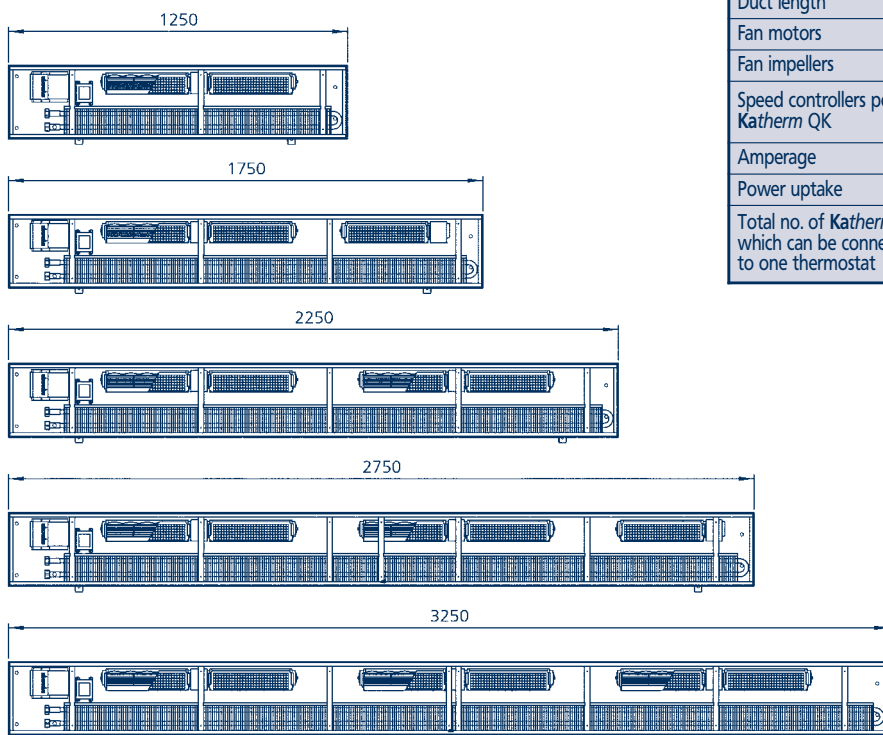
Katherm QK

- ① Linear grille (alternatively roll-up grille)
- ② Filter for air inlet (optional)
- ③ Cross-flow fan, asynchronous outer rotor motor
- ④ PowerKon high capacity convector
- ⑤ Floor duct
- ⑥ Eurokonus flow connection 1/2"
- ⑦ Eurokonus return connection 1/2"
- ⑧ Height adjustment feet showing fixing and noise insulation
- ⑨ Pipe opening for room/window side connection, stamped
- ⑩ Pipe opening for end connection, stamped
- ⑪ Speed controller
- ⑫ Electrical cable entry, stamped
- ⑬ Screed anchoring lug



Katherm QK 340

Katherm QK standard range



Fan data

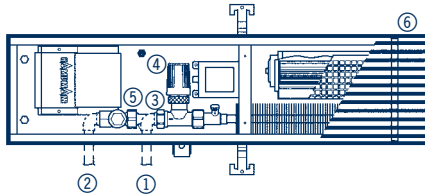
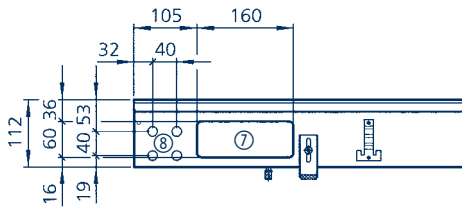
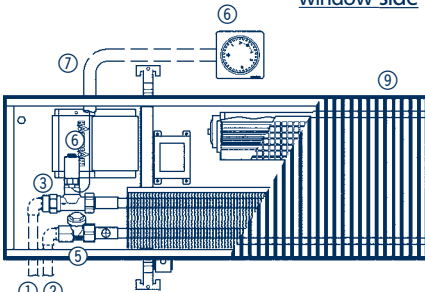
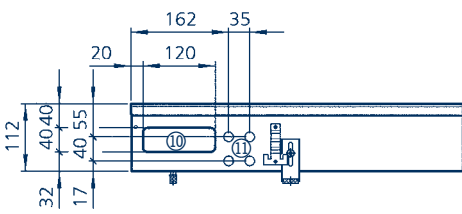
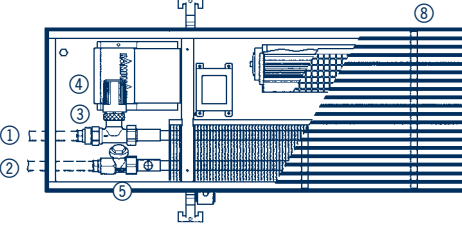
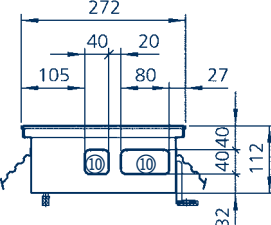
Duct length	1250	1750	2250	2750	3250
Fan motors	1	2	2	3	3
Fan impellers	2	3	4	5	6
Speed controllers per Katherm QK	1	1	1	1	1
Amperage A	0,11	0,17	0,22	0,28	0,33
Power uptake w	20	32	40	52	60
Total no. of Katherm QK which can be connected to one thermostat	see table on p 11				

Non-standard Katherm QK on request

All dimensions given in mm

Water connection · Pipe openings

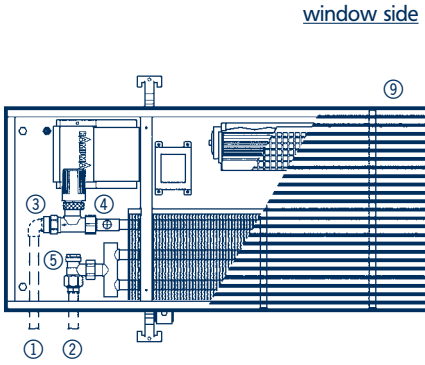
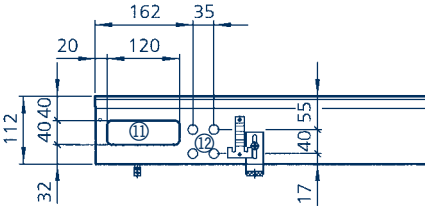
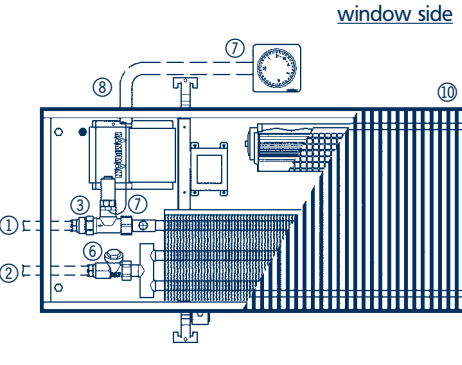
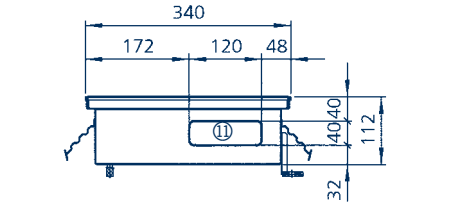
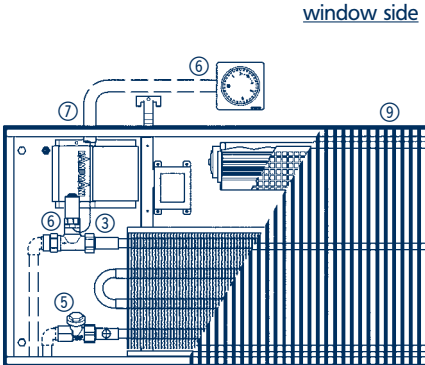
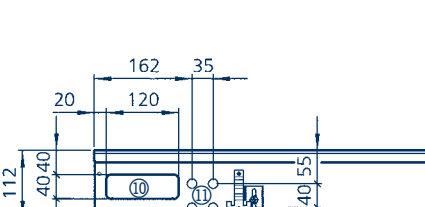
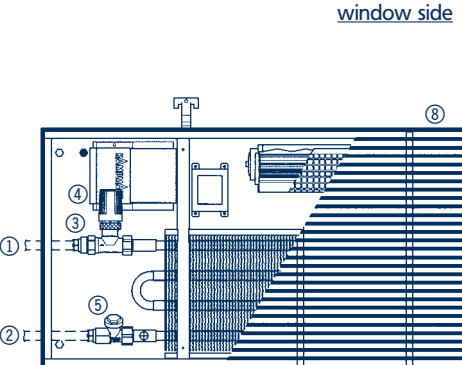
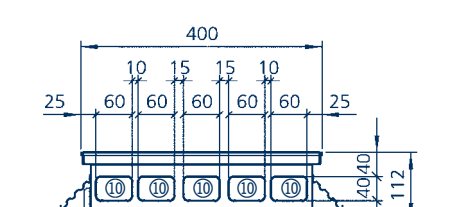
Katherm QK 182, Katherm QK 272

Design	Room/window-side connection	End connection
Katherm QK 182 ① Flow ② Return ③ 1/2" Valve body, type 146909 ④ Thermoelectric actuator, type 146905 ⑤ Return shut-off valve, straight design, type 145952 ⑥ Unit shown with linear grille ⑦ Pipe opening, stamped ⑧ Cable entry, stamped	window side  connection: 1/2", same end, left room side  room-side connection only with Katherm QK 182	not possible with Katherm QK 182
Katherm QK 272 ① Flow ② Return ③ 1/2" Valve body, type 146909 ④ Thermoelectric actuator, type 146905 ⑤ Return shut-off valve, straight design, type 145952 ⑥ Thermostatic valve head with remote sensor, type 146907 ⑦ Pipe Ø 23 mm for capillary tube for thermostatic valve head (by others) ⑧ Unit shown with linear grille ⑨ Unit shown with roll-up grille ⑩ Pipe opening, stamped ⑪ Cable entry, stamped	window side  connection: 1/2", same end, left room side 	window side  connection: 1/2", same end, left room side 

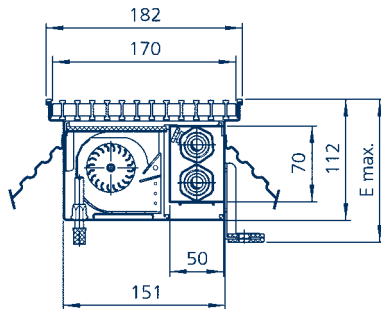
1.42 Katherm QK - Cross-flow fan-assisted convection

Technical data

Water connection · Pipe openings

Katherm QK 340, Katherm QK 400		
Ausführung	Room/window-side connection	End connection
Katherm QK 340 ① Flow ② Return ③ 1/2" Valve body, type 146909 ④ Thermoelectrical actuator, type 146905 ⑤ Return shut-off valve, angled design, type 145953 ⑥ Return shut-off valve, straight design, type 145952 ⑦ Thermostatic valve head, type 146907 ⑧ Pipe Ø 23 mm for capillary tube for thermostatic head w. remote sensor (by others) ⑨ Unit shown with linear grille ⑩ Unit shown with roll-up grille ⑪ Pipe opening, stamped ⑫ Cable entry, stamped	window side  room side connection 1/2", same end, left 	window side  room side connection 1/2", same end, left 
Katherm QK 400 ① Flow ② Return ③ Valve body 1/2", type 146909 ④ Thermoelectric actuator, type 146905 ⑤ Return shut-off valve, straight, type 145952 ⑥ Thermostatic valve head with remote sensor, type 146907 ⑦ Pipe Ø 23 mm for capillary tube for thermostatic valve head with remote sensor (by others) ⑧ Unit shown with linear grille ⑨ Unit shown with roll-up grille ⑩ Pipe opening, stamped ⑪ Cable entry, stamped	window side  room side connection 1/2", same end, left 	window side  room side connection: 1/2", same end, left 

Dimensions · Heat outputs

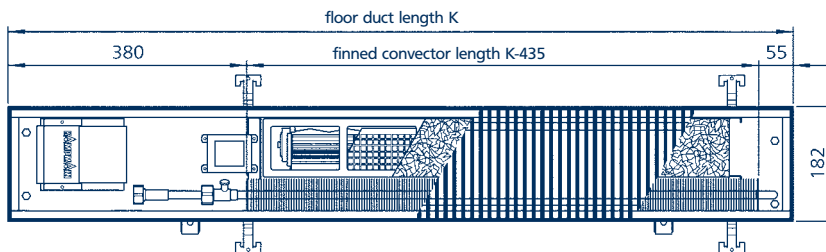


Cross-section through unit shown with linear grille

Katherm QK 182 dimensions

Overall frame width	[mm]	182
Floor duct width	[mm]	151
Grille width	[mm]	170
Max. adjustment height	E_{max} [mm]	115-149
Floor duct height	[mm]	112
Floor duct length	K [mm]	1250-3250, in 500 mm increments
NP = standard range		
Convector height	[mm]	70
Convector depth	[mm]	50
Finned convector length	[mm]	K-435
Eurokonus* connection		1/2", same end, left
Heat output per metre finned convector length, natural convection, at LPHW 75/65 °C, $t_l = 20$ °C (to calculate non-standard (MP) lengths)	[w/m]	210

*Katherm QK 182 can only be supplied with left-hand, room side connections



Plan view of unit shown with roll-up grille

Katherm QK 182 heat outputs (w), floor duct length 1250 mm

Fan speed			max. fan speed		medium fan speed		min. fan speed		natural convection
Fan stage			5	4	3	2	1		
Air volume			m³/h	240	180	140	110	90	0
Sound pressure level ¹⁾			dB(A)	40	30	25	22	21	0
Sound power level ²⁾			dB(A)	54	44	39	36	35	0
Duct length K NP=standard range [mm]	Water temperature LPHW [°C]	Room temperature t_l [°C]	Heat output at room temperature t_l						Q [W]
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	
NP 1250	90/70	20	1168	1034	985	902	818	217	
		15	1199	1062	1012	927	840	224	
	82/71	18	1136	1006	958	878	796	210	
		20	1094	969	923	846	767	200	
		22	1053	932	888	813	738	191	
	75/65	15	1063	941	897	821	745	194	
		18	1000	886	844	773	701	180	
		20	959	849	809	741	672	171	
		22	918	812	774	709	643	162	
	70/55	15	907	803	765	701	636	160	
		18	846	749	713	653	593	147	
		20	805	712	679	622	564	138	
		22	764	676	644	590	535	130	
	55/45	15	652	578	550	504	457	108	
		18	592	524	500	458	415	96	
		20	552	489	466	427	387	88	
		22	513	454	433	396	359	80	

¹⁾calculated using the free field method, hemispherical model at a distance of 2 m; see page 12 for other models

²⁾measured in accordance with DIN EN 23741 in a sound-proofed room with a volume of 200 m³

1.42 Katherm QK 182 - Cross-flow fan-assisted convection

Technical data

Heat outputs

Katherm QK 182 heat outputs (w), floor duct length 1750 mm								
Fan speed		max. fan speed	medium fan speed				min. fan speed	natural convection
Fan stage		5	4	3	2	1		
Air volume		m³/h	375	280	220	175	140	0
Sound pressure level ¹⁾		dB(A)	41	31	26	23	22	0
Sound power level ²⁾		dB(A)	55	45	40	37	36	0
Duct length K NP=standard range [mm]	Water temperature LPHW [°C]	Room temperature t _r [°C]	Heat output at room temperature t _r					
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]
NP 1750	90/70	20	1885	1668	1590	1455	1321	350
	82/71	15	1936	1713	1633	1494	1357	361
		18	1834	1623	1547	1416	1285	338
		20	1766	1563	1490	1364	1238	324
		22	1699	1504	1433	1312	1191	309
	75/65	15	1716	1519	1448	1325	1203	312
		18	1615	1429	1363	1247	1132	290
		20	1548	1370	1306	1195	1085	276
		22	1481	1311	1250	1143	1038	262
	70/55	15	1465	1296	1236	1131	1027	258
		18	1365	1208	1152	1054	957	237
		20	1299	1149	1096	1003	910	223
		22	1233	1091	1040	952	864	210
	55/45	15	1053	932	888	813	738	174
		18	956	846	807	738	670	155
		20	892	789	752	688	625	142
		22	828	732	698	639	580	130

Katherm QK 182 (w) heat outputs, floor duct length 2250 mm								
Fan speed		max. fan speed	medium fan speed				min. fan speed	natural convection
Fan stage		5	4	3	2	1		
Air volume		m³/h	480	360	280	220	180	0
Sound pressure level ¹⁾		dB(A)	42	32	27	24	23	0
Sound power level ²⁾		dB(A)	56	46	41	38	37	0
Duct length K NP=standard range [mm]	Water temperature LPHW [°C]	Room temperature t _r [°C]	Heat output at room temperature t _r					
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]
NP 2250	90/70	20	2601	2303	2194	2009	1823	483
	82/71	15	2671	2365	2253	2063	1872	499
		18	2531	2240	2135	1955	1774	467
		20	2437	2158	2056	1883	1708	447
		22	2344	2075	1978	1811	1643	426
	75/65	15	2368	2096	1997	1829	1659	431
		18	2228	1973	1880	1721	1562	401
		20	2136	1891	1802	1650	1497	381
		22	2044	1809	1724	1579	1432	361
	70/55	15	2021	1789	1705	1561	1416	356
		18	1883	1667	1589	1455	1320	327
		20	1792	1587	1512	1384	1256	308
		22	1701	1506	1435	1314	1192	290
	55/45	15	1453	1286	1226	1123	1018	240
		18	1319	1168	1113	1019	924	213
		20	1230	1089	1038	950	862	196
		22	1142	1011	963	882	800	179

¹⁾calculated using the free field method, hemispherical model at a distance of 2 m; see page 12 for other models

²⁾measured in accordance with DIN EN 23741 in a sound-proofed room with a volume of 200 m³

Heat outputs

Katherm QK 182 heat outputs (w), floor duct length 2750 mm

Fan speed			max. fan speed	medium fan speed			min. fan speed	natural convection	
Fan stage			5	4	3	2	1		
Air volume			m³/h	615	460	360	285	230	0
Sound pressure level ¹⁾			dB(A)	43	33	28	24	23	0
Sound power level ²⁾			dB(A)	57	47	42	38	37	0
Duct length K NP=standard range [mm]	Water temperature LPHW [°C]	Room temperature t _r [°C]	Heat output at room temperature t _r						
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	
NP 2750	90/70	20	3318	2937	2799	2562	2326	616	
	82/71	15	3408	3016	2875	2631	2389	636	
		18	3229	2858	2724	2493	2263	596	
		20	3110	2752	2623	2401	2180	570	
		22	2991	2647	2523	2309	2096	544	
	75/65	15	3020	2674	2548	2332	2117	550	
		18	2843	2516	2398	2195	1993	511	
		20	2725	2412	2299	2104	1910	486	
		22	2607	2308	2200	2013	1828	461	
	70/55	15	2578	2282	2175	1991	1807	455	
		18	2403	2127	2027	1855	1684	418	
		20	2286	2024	1929	1765	1603	393	
		22	2170	1921	1831	1676	1521	370	
	55/45	15	1854	1641	1564	1431	1299	306	
		18	1683	1490	1420	1299	1180	272	
		20	1570	1389	1324	1212	1100	250	
		22	1457	1289	1229	1125	1021	229	

Katherm QK 182 heat outputs (w), floor duct length 3250 mm

Fan speed			max. fan speed	medium fan speed				min. fan speed	natural convection
Fan stage			5	4	3	2	1		
Air volume			m³/h	720	540	420	330	270	0
Sound pressure level ¹⁾			dB(A)	44	34	29	25	24	0
Sound power level ²⁾			dB(A)	58	48	43	39	38	0
Duct length K NP=standard range [mm]	Water temperature LPHW [°C]	Room temperature t _r [°C]	Heat output at room temperature t _r						
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	
NP 3250	90/70	20	4034	3571	3403	3116	2827	749	
	82/71	15	4143	3668	3495	3200	2904	774	
		18	3925	3475	3311	3032	2751	725	
		20	3780	3347	3189	2920	2650	693	
		22	3636	3219	3068	2809	2548	661	
	75/65	15	3672	3251	3098	2836	2574	669	
		18	3456	3060	2916	2670	2422	622	
		20	3313	2933	2795	2559	2322	591	
		22	3170	2806	2674	2449	2222	560	
	70/55	15	3134	2775	2644	2421	2197	553	
		18	2921	2586	2464	2256	2047	508	
		20	2780	2461	2345	2147	1948	478	
		22	2639	2336	2226	2038	1849	449	
	55/45	15	2254	1995	1901	1741	1580	372	
		18	2046	1811	1726	1580	1434	331	
		20	1908	1689	1610	1474	1337	304	
		22	1771	1568	1494	1368	1241	278	

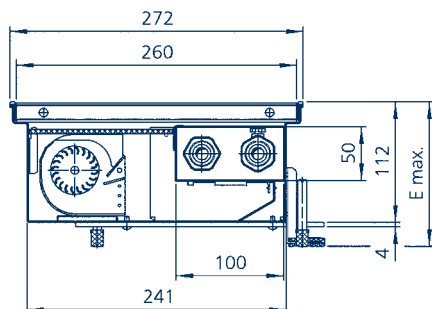
¹⁾calculated using the free field method, hemispherical model at a distance of 2 m; see page 12 for other models

²⁾measured in accordance with DIN EN 23741 in a sound-proofed room with a volume of 200 m³

1.42 Katherm QK 272 - Cross-flow fan-assisted convection

Technical data

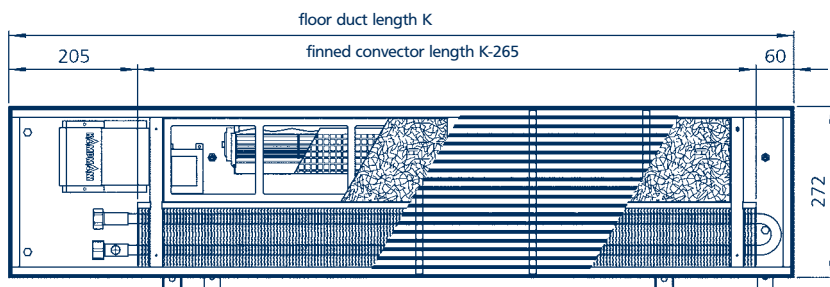
Dimensions · Heat outputs



Cross-section through 112mm deep duct with roll-up grille

Katherm QK 272 dimensions

Overall frame width	[mm]	272
Floor duct width	[mm]	241
Grille width	[mm]	260
Max. adjustment height	E_{max} [mm]	115-149
Floor duct height	[mm]	112
Floor duct length NP = standard range	K [mm]	1250-3250, in 500 mm increments
Convector height	[mm]	50
Convector depth	[mm]	100
Finned convector length	[mm]	K-265
Eurokonus connection		1/2", same end, left
Heat output per metre finned convector length, natural convection, at LPHW 75/65 °C, $t_l = 20$ °C (to calculate non-standard (MP) lengths)	[w/m]	289



Plan view of unit shown with linear grille

Katherm QK 272 heat outputs (w), floor duct length 1250 mm

Fan speed			max. fan speed	medium fan speed				min. fan speed	natural convection
Fan stage			5	4	3	2	1		
Air volume			m ³ /h	240	180	140	110	90	0
Sound pressure level ¹⁾			dB(A)	40	30	25	22	21	0
Sound power level ²⁾			dB(A)	54	44	39	36	35	0
Duct length K NP=standard range [mm]	Water temperature LPHW [°C]	Room temperature t_l [°C]	Heat output at room temperature t_l						
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]
NP 1250	90/70	20	1711	1421	1317	1176	1037	361	
		15	1757	1459	1353	1208	1065	373	
	82/71	18	1665	1383	1282	1145	1009	350	
		20	1603	1332	1235	1102	972	334	
		22	1542	1281	1188	1060	935	319	
	75/65	15	1557	1294	1199	1071	944	323	
		18	1466	1217	1129	1008	889	300	
		20	1405	1167	1082	966	852	285	
	70/55	22	1344	1117	1035	924	815	270	
		15	1329	1104	1024	914	806	267	
		18	1239	1029	954	852	751	245	
		20	1179	979	908	810	715	231	
		22	1119	929	862	769	679	217	
	55/45	15	956	794	736	657	580	179	
		18	868	721	668	597	526	160	
		20	809	672	623	556	491	147	
		22	751	624	578	516	455	134	

¹⁾calculated using the free field method, hemispherical model at a distance of 2 m; see page 12 for other models

²⁾measured in accordance with DIN EN 23741 in a sound-proofed room with a volume of 200 m³

Heat outputs

Katherm QK 272 heat outputs (w), floor duct length 1750 mm								
Fan speed			max. fan speed	medium fan speed			min. fan speed	natural convection
Fan stage			5	4	3	2	1	
Air volume m³/h			375	280	220	175	140	0
Sound pressure level ¹⁾ dB(A)			41	31	26	23	22	0
Sound power level ²⁾ dB(A)			55	45	40	37	36	0
Duct length K NP=standard range	Water temperature LPHW	Room temperature t _L	Heat output at room temperature t _L					
			[mm]	[°C]	[°C]	Q [W]	Q [W]	Q [W]
NP 1750	90/70	20	2579	2143	1986	1774	1565	544
	82/71	15	2649	2201	2040	1822	1607	561
		18	2509	2085	1932	1726	1522	526
		20	2417	2008	1861	1663	1466	503
		22	2325	1932	1790	1599	1410	480
	75/65	15	2348	1951	1808	1615	1424	486
		18	2210	1836	1702	1520	1341	451
		20	2118	1760	1631	1457	1285	429
		22	2027	1684	1561	1394	1230	407
	70/55	15	2004	1665	1543	1378	1216	401
		18	1868	1552	1438	1285	1133	369
		20	1777	1477	1368	1222	1078	347
		22	1687	1402	1299	1160	1023	326
	55/45	15	1441	1197	1110	991	874	270
		18	1308	1087	1007	900	794	240
		20	1220	1014	939	839	740	221
		22	1132	941	872	779	687	202

Katherm QK 272 heat outputs (w), floor duct length 2250 mm								
Fan speed			max. fan speed	medium fan speed			min. fan speed	natural convection
Fan stage			5	4	3	2	1	
Air volume m³/h			480	360	280	220	180	0
Sound pressure level ⁽¹⁾ dB(A)			42	32	27	24	23	0
Sound power level ⁽²⁾ dB(A)			56	46	41	38	37	0
Duct length K NP=standard range [mm]	Water temperature LPHW [°C]	Room temperature t _r [°C]	Heat output at room temperature t _r					
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]
NP 2250	90/70	20	3447	2864	2654	2371	2091	728
	82/71	15	3540	2941	2726	2435	2147	751
		18	3354	2787	2583	2307	2034	704
		20	3230	2684	2488	2222	1959	673
		22	3107	2581	2393	2137	1884	642
	75/65	15	3138	2607	2416	2158	1903	650
		18	2953	2454	2274	2031	1791	604
		20	2831	2352	2180	1947	1717	574
		22	2709	2251	2086	1863	1643	544
	70/55	15	2678	2225	2063	1842	1624	537
		18	2496	2074	1922	1717	1514	493
		20	2375	1973	1829	1634	1441	465
		22	2255	1873	1736	1551	1368	436
	55/45	15	1926	1600	1483	1325	1168	361
		18	1748	1452	1346	1202	1060	321
		20	1631	1355	1256	1121	989	295
		22	1514	1257	1165	1041	918	270

¹⁾calculated using the free field method, hemispherical model at a distance of 2 m; see page 12 for other models

²⁾measured in accordance with DIN EN 23741 in a sound-proofed room with a volume of 200 m³

1.42 Katherm QK 272 - Cross-flow fan-assisted convection

Technical data

Heat outputs

Katherm QK 272 heat outputs (w), floor duct length 2750 mm

Fan speed			max. fan speed	medium fan speed			min. fan speed	natural convection
Fan stage			5	4	3	2	1	
Air volume m³/h			615	460	360	285	230	0
Sound pressure level ¹⁾ dB(A)			43	33	28	24	23	0
Sound power level ²⁾ dB(A)			57	47	42	38	37	0
Duct length K NP=standard range [mm]	Water temperature LPHW [°C]	Room temperature t _r [°C]	Heat output at room temperature t _r					
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]
NP 2750	90/70	20	4315	3586	3323	2969	2618	910
	82/71	15	4432	3683	3413	3049	2689	940
		18	1499	3489	3233	2889	2547	881
		20	4044	3361	3114	2782	2453	842
		22	3890	3232	2995	2676	2360	803
	75/65	15	3928	3264	3025	2702	2383	813
		18	3697	3072	2847	2543	2243	756
		20	3544	2945	2729	2438	2150	718
		22	3391	2818	2611	2333	2057	681
	70/55	15	3353	2786	2582	2307	2034	672
		18	3125	2597	2406	2150	1896	617
		20	2973	2471	2290	2046	1804	581
		22	2823	2346	2174	1942	1712	546
	55/45	15	2411	2004	1857	1659	1463	452
		18	2189	1819	1685	1506	1328	402
		20	2041	1696	1572	1404	1238	370
		22	1895	1574	1459	1303	1149	338

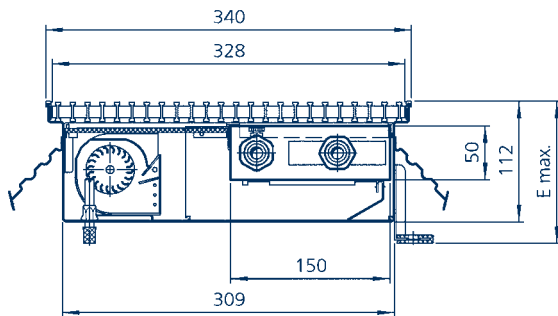
Katherm QK 272 heat outputs (w), floor duct length 3250 mm

Fan speed			max. fan speed	medium fan speed				min. fan speed	natural convection
Fan stage			5	4	3	2	1		
Air volume m³/h			720	540	420	330	270	0	
Sound pressure level ¹⁾ dB(A)			44	34	29	25	24	0	
Sound power level ²⁾ dB(A)			58	48	43	39	38	0	
Duct length K NP=standard range [mm]	Water temperature LPHW [°C]	Room temperature t _r [°C]	Heat output at room temperature t _r						
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	
NP 3250	90/70	20	5183	4307	3991	3565	3144	1094	
	82/71	15	5324	4423	4099	3662	3229	1130	
		18	5044	4191	3884	3469	3059	1058	
		20	4858	4036	3741	3341	2946	1012	
		22	4672	3882	3598	3214	2834	965	
	75/65	15	4719	3920	3633	3245	2862	977	
		18	4441	3690	3420	3055	2694	908	
		20	4257	3537	3278	2928	2582	863	
		22	4073	3384	3137	2802	2471	818	
	70/55	15	4028	3346	3101	2770	2443	807	
		18	3754	3119	2890	2582	2277	742	
		20	3572	2968	2750	2457	2166	699	
		22	3391	2817	2611	2332	2056	656	
	55/45	15	2896	2406	2230	1992	1757	543	
		18	2629	2184	2024	1808	1595	483	
		20	2452	2037	1888	1686	1487	444	
		22	2276	1891	1752	1565	1380	406	

¹⁾calculated using the free field method, hemispherical model at a distance of 2 m; see page 12 for other models

²⁾measured in accordance with DIN EN 23741 in a sound-proofed room with a volume of 200 m³

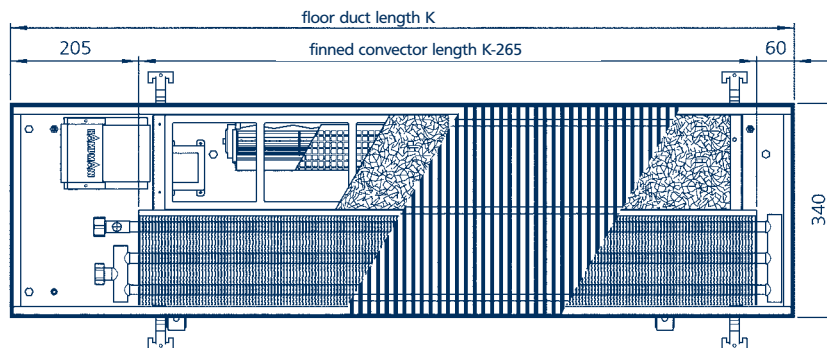
Dimensions · Heat outputs



Cross-section through 112 mm deep duct with linear grille

Katherm QK 340 dimensions

Overall frame width	[mm]	340
Floor duct width	[mm]	309
Grille width	[mm]	328
Max. adjustment height	E_{max} [mm]	115-149
Floor duct height	[mm]	112
Floor duct length NP = standard length	K [mm]	1250-3250, in 500 increments
Convector height	[mm]	50
Convector depth	[mm]	150
Finned convector length	[mm]	K-265
Eurokonus connection		1/2", same end, left
Heat output per metre finned convector length, natural convection, at LPHW 75/65 °C, $t_l = 20$ °C (to calculate non-standard (MP) lengths)	[w/m]	393



Plan view shown with roll-up grille

Katherm QK 340 heat outputs (w), floor duct length 1250 mm

Fan speed			max. fan speed	medium fan speed			min. fan speed	natural convection	
Fan stage			5	4	3	2	1		
Air volume			m³/h	240	180	140	110	90	0
Sound pressure level ¹⁾			dB(A)	40	30	25	22	21	0
Sound power level ²⁾			dB(A)	54	44	39	36	35	0
Duct length K NP=standard range [mm]	Water temperature LPHW [°C]	Room temperature t _r [°C]	Heat output at room temperature t _r						
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	
NP 1250	90/70	20	2131	1756	1619	1477	1333	491	
	82/71	15	2188	1803	1663	1517	1369	507	
		18	2073	1708	1576	1437	1297	475	
		20	1997	1645	1518	1384	1250	454	
		22	1921	1583	1460	1331	1202	433	
	75/65	15	1940	1598	1474	1345	1214	438	
		18	1826	1504	1388	1265	1142	407	
		20	1750	1442	1330	1213	1095	387	
		22	1675	1380	1273	1161	1048	367	
	70/55	15	1656	1364	1258	1148	1036	362	
		18	1543	1271	1173	1070	966	333	
		20	1468	1210	1116	1018	919	313	
		22	1394	1148	1059	966	872	294	
	55/45	15	1191	981	905	825	745	243	
		18	1081	891	821	749	676	217	
		20	1008	831	766	699	631	199	
		22	936	771	711	648	585	182	

¹⁾calculated using the free field method, hemispherical model at a distance of 2 m; see page 12 for other models

²⁾measured in accordance with DIN EN 23741 in a sound-proofed room with a volume of 200 m³

1.42 Katherm QK 340 - Cross-flow fan-assisted convection

Technical data

Heat outputs

Katherm QK 340 heat outputs (w), floor duct length 1750 mm								
Fan speed			max. fan speed	medium fan speed			min. fan speed	natural convection
Fan stage			5	4	3	2	1	
Air volume		m³/h	375	280	220	175	140	0
Sound pressure level ¹⁾		dB(A)	41	31	26	23	22	0
Sound power level ²⁾		dB(A)	55	45	40	37	36	0
Duct length K NP=standard range	Water temperature LPHW	Room temperature t _r	Heat output at room temperature t _r					
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]
[mm]	[°C]	[°C]						
NP 1750	90/70	20	3213	2647	2441	2226	2010	740
	82/71	15	3300	2719	2507	2286	2065	764
		18	3127	2576	2376	2166	1956	716
		20	3011	2481	2288	2086	1884	685
		22	2896	2386	2201	2006	1812	653
	75/65	15	2925	2410	2222	2026	1830	661
		18	2753	2268	2092	1907	1722	615
		20	2639	2174	2005	1828	1651	584
		22	2525	2080	1919	1749	1580	554
	70/55	15	2497	2057	1897	1729	1562	546
		18	2327	1917	1768	1612	1456	502
		20	2214	1824	1682	1534	1385	473
		22	2102	1732	1597	1456	1315	444
	55/45	15	1795	1479	1364	1244	1123	367
		18	1630	1343	1238	1129	1020	327
		20	1520	1252	1155	1053	951	301
		22	1411	1162	1072	977	883	275

Katherm QK 340 heat outputs (w), floor duct length 2250 mm									
Fan speed			max.fan speed	medium fan speed			min. fan speed	natural convection	
Fan stage			5	4	3	2	1		
Air volume			m³/h	480	360	280	220	180	0
Sound pressure level ¹⁾			dB(A)	42	32	27	24	23	0
Sound power level ²⁾			dB(A)	56	46	41	38	37	0
Duct length K NP=standard range [mm]	Water temperature LPHW	Room temperature t _r	Heat output at room temperature t _r						
	°C]	°C]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	
NP 2250	90/70	20	4295	3538	3263	2976	2687	989	
	82/71	15	4411	3634	3351	3056	2760	1021	
		18	4179	3443	3175	2896	2615	957	
		20	4025	3316	3058	2789	2518	914	
		22	3871	3189	2941	2682	2422	872	
	75/65	15	3909	3221	2971	2709	2446	883	
		18	3680	3032	2796	2550	2302	821	
		20	3527	2906	2680	2444	2207	780	
		22	3375	2781	2564	2339	2112	740	
	70/55	15	3337	2749	2536	2312	2088	730	
		18	3110	2562	2363	2155	1946	670	
		20	2959	2438	2249	2051	1852	631	
		22	2809	2315	2135	1947	1758	593	
	55/45	15	2399	1977	1823	1663	1501	491	
		18	2178	1795	1655	1509	1363	437	
		20	2031	1674	1544	1408	1271	402	
		22	1886	1554	1433	1307	1180	367	

Heat outputs

Katherm QK 340 heat outputs (w), floor duct length 2750 mm									
Fan speed			max. fan speed	medium fan speed			min. fan speed	natural convection	
Fan stage			5	4	3	2	1		
Air volume			m³/h	615	460	360	285	230	0
Sound pressure level ¹⁾			dB(A)	43	33	28	24	23	0
Sound power level ²⁾			dB(A)	57	47	42	38	37	0
Duct length K NP=standard range	Water temperature LPHW	Room temperature t _L	Heat output at room temperature t _L						
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	
[mm]	[°C]	[°C]							
NP 2750	90/70	20	5377	4430	4085	3725	3364	1238	
	82/71	15	5522	4549	4196	3825	3455	1279	
		18	5232	4310	3975	3624	3274	1198	
		20	5039	4151	3828	3491	3153	1154	
		22	4847	3993	3682	3357	3033	1093	
	75/65	15	4895	4032	3719	3391	3063	1106	
		18	4607	3795	3500	3191	2883	1028	
		20	4416	3638	3355	3059	2763	977	
		22	4226	3481	3210	2927	2644	927	
	70/55	15	4178	3442	3174	2894	2614	914	
		18	3894	3208	2958	2697	2436	840	
		20	3705	3052	2815	2567	2318	791	
		22	3517	2898	2672	2436	2201	743	
	55/45	15	3004	2475	2282	2081	1880	615	
		18	2727	2247	2072	1889	1706	547	
		20	2544	2095	1932	1762	1591	503	
		22	2361	1945	1794	1635	1477	460	

Katherm QK 340 heat outputs (w), floor duct length 3250 mm								
Fan speed			max. fan speed	medium fan speed			min. fan speed	natural convection
Fan stage			5	4	3	2	1	
Air volume		m³/h	720	540	420	330	270	0
Sound pressure level ¹⁾		dB(A)	44	34	29	25	24	0
Sound power level ²⁾		dB(A)	58	48	43	39	38	0
Duct length K NP=standard range	Water temperature LPHW	Room temperature t _r	Heat output at room temperature t _r					
			[mm]	[°C]	[°C]	Q [W]	Q [W]	Q [W]
NP 3250	90/70	20	6458	5321	4907	4475	4041	1487
	82/71	15	6633	5465	5040	4596	4151	1535
		18	6284	5178	4775	4354	3932	1439
		20	6052	4987	4599	4194	3787	1375
		22	5821	4796	4423	4033	3643	1312
	75/65	15	5879	4844	4467	4073	3679	1328
		18	5533	4559	4204	3834	3463	1234
		20	5304	4370	4030	3675	3319	1173
		22	5075	4182	3856	3516	3176	1112
	70/55	15	5018	4134	3813	3477	3140	1097
		18	4677	3853	3553	3240	2926	1008
		20	4450	3667	3381	3083	2785	950
		22	4224	3481	3210	2927	2643	892
	55/45	15	3608	2973	2742	2500	2258	738
		18	3276	2699	2489	2270	2050	657
		20	3055	2517	2321	2117	1912	604
		22	2836	2336	2155	1965	1774	552

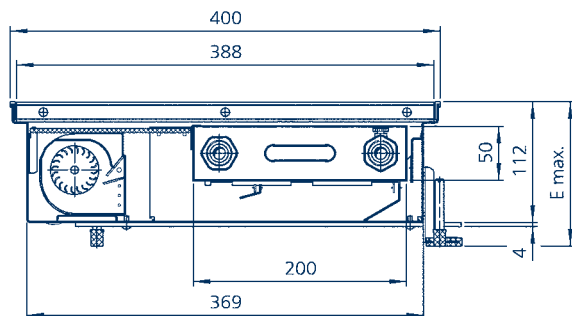
¹⁾calculated using the free field method, hemispherical model at a distance of 2 m; see page 12 for other models

²⁾measured in accordance with DIN EN 23741 in a sound-proofed room with a volume of 200 m³

1.42 Katherm QK 400 - Cross-flow fan-assisted convection

Technical data

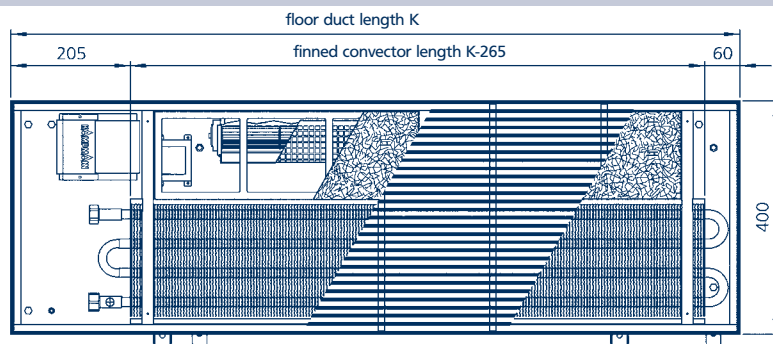
Dimensions · Heat outputs



Cross-section through 112 mm deep duct with roll-up grille

Katherm QK 400 dimensions

Overall frame width	[mm]	400
Floor duct width	[mm]	369
Grille width	[mm]	388
Max. adjustment height	E_{max} [mm]	115-149
Floor duct height	[mm]	112
Floor duct length NP = standard range	K [mm]	1250-3250, in 500 mm increments
Convector height	[mm]	50
Convector depth	[mm]	200
Finned convector length	[mm]	K-265
Eurokonus connection		1/2", same end, left
Heat output per metre finned convector length, natural convection, at LPHW 75/65 °C, $t_l = 20$ °C (to calculate non-standard (MP) lengths)	[w/m]	490



Plan view of unit shown with linear grille

Katherm QK 400 heat outputs (w), floor duct length 1250 mm

Fan speed			max. fan speed		medium fan speed		min. fan speed		natural convection
Fan stage			5	4	3	2	1		
Air volume			m ³ /h	240	180	140	110	90	0
Sound pressure level ¹⁾			dB(A)	40	30	25	22	21	0
Sound power level ²⁾			dB(A)	54	44	39	36	35	0
Duct length K NP=standard range [mm]	Water temperature LPHW [°C]	Room temperature t_l [°C]	Heat output at room temperature t_l						Q [W]
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	
NP 1250	90/70	20	2854	2338	2149	1931	1712	612	
		15	2931	2401	2207	1983	1758	632	
		18	2777	2275	2091	1879	1666	592	
		20	2675	2191	2014	1810	1604	566	
	82/71	22	2573	2107	1937	1741	1543	540	
		15	2598	2128	1956	1758	1558	547	
		18	2445	2003	1841	1655	1467	508	
		20	2344	1920	1765	1586	1406	483	
	75/65	22	2243	1837	1689	1518	1345	458	
		15	2218	1817	1670	1501	1330	452	
		18	2067	1693	1556	1398	1240	415	
		20	1967	1611	1481	1331	1180	391	
	70/55	22	1867	1529	1406	1263	1120	367	
		15	1595	1306	1201	1079	957	304	
		18	1448	1186	1090	979	868	270	
	55/45	20	1350	1106	1017	913	810	249	
		22	1253	1026	944	848	752	227	

¹⁾calculated using the free field method, hemispherical model at a distance of 2 m; see page 12 for other models

²⁾measured in accordance with DIN EN 23741 in a sound-proofed room with a volume of 200 m³

Katherm QK 400 heat outputs (w), floor duct length 1750 mm								
Fan speed			max. fan speed	medium fan speed			min. fan speed	natural convection
Fan stage			5	4	3	2	1	
Air volume m³/h			375	280	220	175	140	0
Sound pressure level ¹⁾ dB(A)			41	31	26	23	22	0
Sound power level ²⁾ dB(A)			55	45	40	37	36	0
Duct length K NP=standard range [mm]	Water temperature LPHW [°C]	Room temperature t _r [°C]	Heat output at room temperature t _r					
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]
NP 1750	90/70	20	4303	3524	3240	2911	2580	923
		15	4419	3619	3328	2990	2650	953
	82/71	18	4187	3429	3153	2833	2511	893
		20	4033	3302	3036	2728	2418	853
		22	3879	3176	2921	2624	2326	814
	75/65	15	3917	3208	2950	2650	2349	824
		18	3687	3019	2776	2494	2211	766
		20	3534	2894	2661	2391	2119	728
		22	3382	2769	2546	2288	2028	690
	70/55	15	3344	2738	2518	2262	2005	681
		18	3116	2552	2346	2108	1868	626
		20	2965	2428	2233	2006	1778	589
		22	2815	2305	2119	1904	1688	554
	55/45	15	2404	1969	1810	1627	1442	458
		18	2182	1787	1643	1477	1309	408
		20	2035	1667	1533	1377	1220	375
		22	1889	1547	1423	1278	1133	343

Katherm QK 400 heat outputs (w), floor duct length 2250 mm								
Fan speed			max. fan speed	medium fan speed			min. fan speed	natural convection
Fan stage			5	4	3	2	1	
Air volume m³/h			480	360	280	220	180	0
Sound pressure level ¹⁾ dB(A)			42	32	27	24	23	0
Sound power level ²⁾ dB(A)			56	46	41	38	37	0
Duct length K NP=standard range [mm]	Water temperature LPHW [°C]	Room temperature t _r [°C]	Heat output at room temperature t _r					
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]
NP 2250	90/70	20	5752	4711	4331	3892	3450	1233
		15	5908	4838	4448	3997	3543	1273
	82/71	18	5597	4584	4214	3787	3357	1193
		20	5391	4415	4059	3647	3233	1141
		22	5185	4246	3904	3508	3109	1088
	75/65	15	5236	4288	3943	3543	3140	1101
		18	4928	4036	3711	3334	2956	1024
		20	4724	3869	3557	3196	2833	973
		22	4520	3702	3404	3058	2711	923
	70/55	15	4469	3660	3365	3024	2680	910
		18	4165	3411	3136	2818	2498	836
		20	3964	3246	2984	2682	2377	788
		22	3762	3082	2833	2545	2256	740
	55/45	15	3214	2632	2420	2174	1927	612
		18	2917	2389	2197	1974	1750	545
		20	2721	2228	2049	1841	1632	501
		22	2526	2068	1902	1709	1515	458

¹⁾calculated using the free field method, hemispherical model at a distance of 2 m; see page 12 for other models

²⁾measured in accordance with DIN EN 23741 in a sound-proofed room with a volume of 200 m³

1.42 Katherm QK 400 - Cross-flow fan-assisted convection

Technical data

Heat outputs

Katherm QK 400 heat outputs (w), floor duct length 2750 mm									
Fan speed			max. fan speed	medium fan speed			min. fan speed	natural convection	
Fan stage			5	4	3	2	1		
Air volume			m³/h	615	460	360	285	230	0
Sound pressure level ¹⁾			dB(A)	43	33	28	24	23	0
Sound power level ²⁾			dB(A)	57	47	42	38	37	0
Duct length K NP=standard range	Water temperature LPHW	Room temperature t _L	Heat output at room temperature t _L						
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	
[mm]	[°C]	[°C]							
NP 2750	90/70	20	7201	5897	5422	4872	4318	1544	
	82/71	15	7396	6056	5569	5003	4434	1594	
		18	7007	5738	5276	4740	4201	1494	
		20	6748	5526	5081	4566	4046	1428	
		22	6491	5315	4887	4391	3892	1362	
	75/65	15	6555	5368	4936	4435	3930	1379	
		18	6170	5053	4646	4174	3699	1282	
		20	5914	4843	4453	4001	3546	1218	
		22	5659	4634	4261	3828	3393	1155	
	70/55	15	5595	4582	4213	3785	3355	1139	
		18	5215	4270	3926	3528	3127	1047	
		20	4962	4063	3736	3357	2975	986	
		22	4710	3857	3547	3187	2824	926	
	55/45	15	4023	3295	3029	2722	2412	766	
		18	3652	2991	2750	2471	2190	682	
		20	3406	2789	2565	2304	2042	627	
		22	3162	2589	2381	2139	1896	573	

Katherm QK 400 heat outputs (w), floor duct length 3250 mm									
Fan speed			max. fan speed	medium fan speed			min. fan speed	natural convection	
Fan stage			5	4	3	2	1		
Air volume			m³/h	720	540	420	330	270	0
Sound pressure level ¹⁾			dB(A)	44	34	29	25	24	0
Sound power level ²⁾			dB(A)	58	48	43	39	38	0
Duct length K NP=standard range	Water temperature LPHW	Room temperature t _L	Heat output at room temperature t _L						
			Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	Q [W]	
[mm]	[°C]	[°C]							
NP 3250	90/70	20	8650	7084	6513	5852	5187	1854	
	82/71	15	8884	7276	6689	6010	5327	1915	
		18	8417	6893	6337	5694	5047	1794	
		20	8106	6639	6104	5484	4861	1715	
		22	7797	6385	5871	5275	4676	1636	
	75/65	15	7874	6449	5929	5327	4722	1656	
		18	7411	6070	5580	5014	4444	1540	
		20	7104	5818	5349	4806	4260	1463	
		22	6798	5567	5118	4599	4076	1387	
	70/55	15	6721	5504	5061	4547	4030	1369	
		18	6264	5130	4716	4238	3756	1257	
		20	5960	4881	4488	4032	3574	1184	
		22	5658	4634	4260	3828	3393	1112	
	55/45	15	4833	3958	3639	3270	2898	920	
		18	4387	3593	3303	2968	2631	819	
		20	4092	3351	3081	2768	2454	753	
		22	3798	3110	2860	2569	2277	688	

¹⁾calculated using the free field method, hemispherical model at a distance of 2 m; see page 12 for other models

²⁾measured in accordance with DIN EN 23741 in a sound-proofed room with a volume of 200 m³

Qty	Article no.	Description	Price/each	Total price
pc.	142 0 2 11 1 11 20	Katherm QK floor duct heaters ready-to-install cross-flow fan-assisted floor duct convectors with: sendzimir galvanized steel floor duct, painted graphite grey, with lugs for improved anchoring in screeded floors, internal and lateral height adjustment feet with sound insulation, with filter frame in air inlet; convector made of copper pipe and aluminium fins and fitted with Eurokonus valve connection, painted graphite grey, max. continuous operating pressure 10 bars and 120 °C, sitting on steel brackets with felt cushioning, additional brackets to strengthen duct; air flow guide wall beneath convector to distribute air evenly; additional cross-flow fan-assisted convection with robust energy-saving outer rotor motor 230 V/50 Hz; ITC-module, factory-wired, controllable between 5 quietly-operating fan stages via transformer, fan speed control via active 0-10 VDC signal or resistance 0-100 KOhm, valve controlled by contacts 230 VAC; parallel control of up to 10 units; frame profile to match grille finish; double T-profile grille, bar dimension 18 x 5 mm, bar spacing 9 mm, 65 % free area; heat output tested in accordance with DIN 4704/DIN EN 442 complete with: 1 roll-up grille 3 linear grille 11 aluminium, natural anodized 12 aluminium, brass anodized 13 aluminium, bronze anodized 14 aluminium, black anodized 15 aluminium bronze effect 16 aluminium, painted basalt grey DB 703 31 stainless steel 32 stainless steel, polished 33 natural brass CuZn 44 34 natural brass, CuZn 44, polished, oxydation-proof 2 Katherm QK 182 width 182 mm connection 1/2" same end 4 Katherm QK 272 width 272 mm connection 1/2" same end 6 Katherm QK 340 width 340 mm connection 1/2" same end 8 Katherm QK 400 width 400 mm connection 1/2" same end 11 duct height 112 mm Length key: 20 NP 1250 mm 30 NP 1750 mm 40 NP 2250 mm 50 NP 2750 mm 60 NP 3250 mm Technical data: duct length NP _____ mm (standard range) MP _____ mm (non-standard range) Heating medium LPHW _____/_____ °C Room temperature _____ °C Heat output _____ W Type Kampmann, article no. 1420 _____, type _____		
			Tailor-made units on request	

For the complete datanorm article number, add the following numbers to the type nos.

1.42 Katherm QK - Cross-flow fan-assisted convection

Specifications

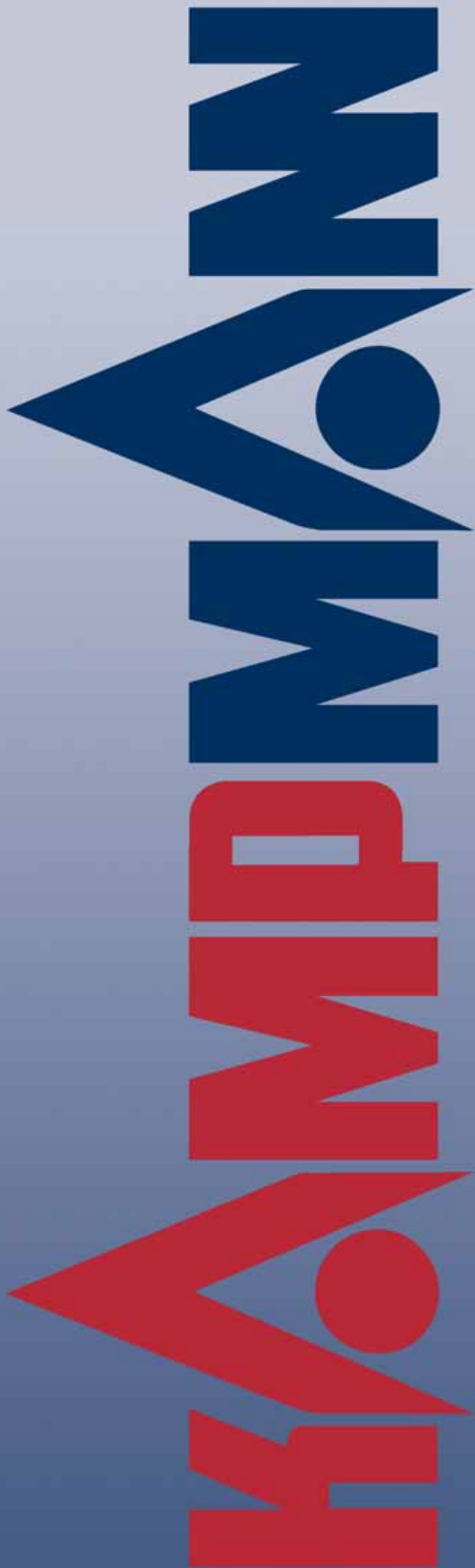
Accessories

Qty	Article no.	Description	Price/each	Total price
pc.	142 000 142 080	Filter for air inlet; length key 0 NP 1250 mm 1 NP 1750 mm 2 NP 2250 mm 3 NP 2750 mm 4 NP 3250 mm 08 for Katherm QK 182 09 for Katherm QK 272 10 for Katherm QK 340 and Katherm QK 400 Type Kampmann, article no. 142000142_ __, type 142_ __		
pc.	194 000 146 909	1/2" Valve body, straight design, for Katherm QK Type Kampmann, article no. 194000146909, type 146909		
pc.	194 000 145 952	1/2" Return shut-off valve, straight design, brass, nickel-plate housing, o-ring seal Type Kampmann, article no. 194000145952, type 145952		
pc.	194 000 145 953	1/2" Return shut-off valve, angled design, brass, nickel-plate housing, o-ring seal Type Kampmann, article no. 194000145953, type 145953		
pc.	194 000 146 905	Thermoelectric actuator 230 V, 50 Hz Type Kampmann, article no. 194000146905, type 146905		
pc.	194 000 146 907	Thermostatic valve head with remote sensor, white, surface-mounted, with 5m capillary tube; temperature range 8 to 27 deg C, frost protection +6 deg C Type Kampmann, article no. 194000146907, type 146907		
pc.	194 000 142 973	Surcharge for mitred corners individual grille bars are cut on the mitre and joined; duct sections are slip-jointed; convectors are connected using woven steel flexible connections; manufactured to exact dimensions 3 for Katherm QK 182 0 for Katherm QK 272 1 for Katherm QK 340 2 for Katherm QK 400 7 non-90 degree mitred corner 8 90 degree mitred corner 1 for Katherm QK with roll-up grille 2 for Katherm QK with linear grille Type Kampmann, article no. 194000_429_ __, type _429_ __		
m	194 000 142 987	Installation cover to protect floor duct on site during installation 7 for Katherm QK 182 4 for Katherm QK 272 5 for Katherm QK 340 6 for Katherm QK 400 Type Kampmann, article no. 19400014298_ __, type 14298_ __		
m	194 000 142 31	Raised floor height adjustment feet for use with Katherm QK, each set comprising: 1 no. flat iron bar, 2 no. screws, 2 M8 adjustment screws with sound insulation 3 for Katherm QK 182 5 for Katherm QK 272 7 for Katherm QK 340 8 for Katherm QK 400 Type Kampmann, article no. 1940000142_1, type 142_1		

not suitable for use with
Katherm QK 182 and
QK 272

For the complete
datanorm article
number, add
the following
numbers to the
type nos.

Qty	Article no.	Description	Price/each	Total price
pc.	194 0 0 0 1 4 6 9 3 6	Speed controller flush-mounted, manufactured by Jung, 5-stage control using dial 0-1-2-3-4-5, white central plate, cover plate and frame Voltage 230 V/50 Hz Protection IP 20 Dimensions W x H x D 65 x 65 x 42 mm Type Kampmann, article no. 194000146936, type 146936		
pc.	194 0 0 0 1 4 6 9 2 7	Room thermostat flush-mounted, manufactured by Jung, temperature set using dial, main switch with indicator, with thermal setback and separate terminal for night setback, white central plate and frame Temperature range approx. 5-30 °C Switching differential 0,5 K Night setback 4 K Protection IP 20 Max. amperage 4 A Dimensions W x H x D 65 x 65 x 42 mm Type Kampmann, article no. 194000146927, type 146927		
pc.	194 0 0 0 1 4 6 9 2 9	Double frame Manufactured by Jung, alpine white, for use with both speed controller type 146936 and room thermostat type 146297 Type Kampmann, article no. 194000146929, type 146929		
pc.	194 0 0 0 1 4 6 9 2 4	Room thermostat with speed controller in a flat surface-mounted housing, white, with thermal setback, restriction of temperature range, on/off fan switch, with integral speed controller for 0-100% control of up to 10 Katherm QK Temperature range approx. 5-30 °C Protection IP 30 Max. amperage 4 A Dimensions W x H x D 70 x 70 x 35 mm Type Kampmann, article no. 194000146924, type 146924		
pc.	194 0 0 0 1 4 6 9 1 0	Clock thermostat 230V/50-Hz, in attractive white surface-mounted housing, with electronic 2-point room temperature control and digital weekly clock, power reserve 15 min, party switch, indicator with operational automatic/day/night/off switch, switching differential can be set Temperature range 10-30 °C Night setback 2-10 K Protection IP 20 Max. amperage 4 A Dimensions W x H x D 140 x 70 x 30 mm Type Kampmann, article no. 194000146910, type 146910		
pc.	194 0 0 0 1 4 6 9 3 2	Clock thermostat 230V/50-Hz, flush-mounted housing, white frame and cover; large display with required and actual values, 4-button operation, setting of day/week programme, party function, frost protection Temperature range 5-30 °C Protection IP 20 Power reserve approx. 1 hour Contact change-over contact, single-ended Max. amperage 2 A Dimensions 84 x 84 mm, 18 mm height Type Kampmann, article no. 194000146932, type 146932		
For the complete datanorm article number, add the following numbers to the type nos.				



KAMPMANN UK Office

Sunbury Int. Business Centre, Brooklands Close
Windmill Road, Sunbury, Middlesex TW16 7DX
Tel. +44 (0) 19 32-72 40 68 • Fax +44 (0) 19 32-724 218
info@kampmann-uk.co.uk • www.kampmann-uk.co.uk

Keane Environmental Ltd

Kilkenny Office • Kilcross • Inistioge • Co. Kilkenny
Tel. +353 (0) 56 77 58 524 • Fax +353 (0) 56 77 58 737
keaneenv@iol.ie • www.kampmann.de



**KAMPMANN GMBH • 49794 LINGEN (EMS)
Germany**

Friedrich-Ebert-Straße • Postfach 60 44
Tel. +49 (0) 591-71 08-0 • Fax +49 (0) 591-71 08-300
info@kampmann.de • www.kampmann.de