Installation instructions

Katherm HK
Ready-to-install floor duct with EC crossflow fan assistance

Please keep safe for future use!
Read these instructions carefully prior to starting commissioning!

Installation manual for heating and cooling

Kampmann. Genau mein Klima.
Explanation of symbols:

⚠️ Caution! Danger!

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

⚠️ Danger of electrocution!

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

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

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

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

Table of contents

1. Correct and proper use. .................................................. 3
2. Safety information. ......................................................... 4
3. Models / Scope of delivery. ............................................. 4
4. Levelling/Water connections ............................................. 5
5. Thermoelectric actuators ................................................ 5
6. Screeding ................................................................. 5
7. Water connections · Pipe openings ................................. 6-12
8. Connection of condensation pump assembly kit ................. 13-17
   8.1 Condensation pump assembly kit .................................. 13
   8.2 Connection of assembly kit for 132 mm duct height .......... 13
   8.3 Connection of assembly kit for 150 mm duct height ........ 14
   8.4 Connection of condensation pump for 190 mm duct height 6
   8.5 Condensation pump connection data ............................ 16
9. Quantity of installation feet ............................................. 16
10. Maintenance .............................................................. 18
11. Consumption data ....................................................... 18
1. Correct and proper use

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

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

The installation of this product requires technical knowledge of heating, cooling and electronics. This knowledge is generally taught as part of a course in one of the vocational fields listed in section 2 and is not described separately here. Damage resulting from improper or incorrect installation is the sole responsibility of the operator.
Installation instructions

2. Safety information

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

Please read this manual in full to ensure correct and proper installation.

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

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

Modifications to the equipment

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

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

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

3. Models/Scope of delivery

Floor ducts are delivered as standard with:

- Screed anchoring lugs
- Height adjustment feet, room side
- Rubber underlays for sound insulation (with screed); screws are dowels are provided by others
- Adjusting screws for height adjustment
- Sound insulation feet
4. Levelling/Waterside connections

- Remove outer film and packaging cardboard.
- Lift up the transparent protective cover.
- Arrange the heat exchanger according to the outlet air direction.
- Then level the floor duct and adjust the height using the height adjustment feet and adjusting screws.
- Fit the height adjustment feet on the room side ② with rubber underlays to isolate sound ③, using screws and dowels supplied by others.
- Use the pre-punched pipe openings on the room side, window side or on the ends to connect up the flow and return pipes.
- Remove the selected pre-punched pipe opening. Seal the thermostatic valve and fitting and fit.
- Then fit the flow and return pipework.
- Perform a pressure test.
- Ensure that this manual is clearly visible to subsequent trades on this equipment.
- Cover the grille and floor duct with the transparent protective cover to prevent it from becoming dirty or damaged by dirt or cement on site.

5. Thermoelectric actuator

Connect up the thermoelectric actuator in the actual floor duct.

6. Screeding

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

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

**Katherm HK 340, 2-pipe, duct height 132 mm**

1. Flow connection - heating/cooling
2. Return connection - heating/cooling
3. Valve body 1/2", straight
   - type 146909 or type 346909
4. Thermoelectric actuator,
   - type 146906
5. Return shut-off valve
   - 1/2", straight,
   - type 145952
6. Pipe openings, punched
7. Filter (optional)
Katherm HK - Heating or cooling with EC crossflow fan assistance
Ready-to-install floor duct convectors

**Katherm HK 340, 2-pipe, duct height 150 mm**

1. Flow connection - heating/cooling
2. Return connection - heating/cooling
3. Valve body 1/2", straight, type 146909 or type 346909
4. Thermoelectric actuator, type 146906
5. Return shut-off valve 1/2", straight, type 145952
6. Pipe openings, punched
7. Filter (optional)

---

**Installation instructions**
1.43 Katherm HK - Heating or cooling with EC crossflow fan assistance
Ready-to-install floor duct convectors

Installation instructions

Katherm HK 340, 2-pipe, duct height 190 mm

1. Flow connection - heating/cooling
2. Return connection - heating/cooling
3. Valve body 1/2", straight, type 146909 or type 346909
4. Thermoelectric actuator, type 146906
5. Return shut-off valve 1/2", straight, type 145952
6. Pipe openings, punched
7. Filter (optional)
Katherm HK - Heating or cooling with EC crossflow fan assistance

Installation instructions

Katherm HK 340, 4-pipe, duct height 132 mm

1. Flow connection - cooling
2. Return connection - cooling
3. Flow connection - heating
4. Return connection - heating
5. Valve body 1/2", straight, type 146909 or type 346909
6. Thermoelectric actuator, type 146906
7. Return shut-off valve 1/2", straight, type 145952
8. Pipe openings, punched
9. Filter (optional)

Plan view, Water connection, room side

Floor duct length

Plan view, Water connection, front end

Window side

Front view, Connection openings

Cross-section, water connection, cooling

Cross-section, water connection, heating
**Katherm HK** - Heating or cooling with EC crossflow fan assistance

**Ready-to-install floor duct convector**

**Installation instructions**

**Katherm HK 340, 4-pipe, duct height 150 mm**

- 1. Flow connection - cooling
- 2. Return connection - cooling
- 3. Flow connection - heating
- 4. Return connection - heating
- 5. Valve body 1/2", straight, type 146909 or type 346909
- 6. Thermoelectric actuator, type 146906
- 7. Return shut-off valve 1/2", straight, type 145952
- 8. Pipe openings, punched
- 9. Filter (optional)

**Plan view, Water connection, room side**

**Plan view, Water connection, front end**

**Side view, connection openings**

**Floor duct length**

**Window side**

**Front view, Connection openings**

**Cross-section, water connection, cooling**

**Cross-section, water connection, heating**
Katherm HK - Heating or cooling with EC crossflow fan assistance

Ready-to-install floor duct convectors

Installation instructions

Katherm HK 340, 4-pipe, duct height 190 mm

1. Flow connection - cooling
2. Return connection - cooling
3. Flow connection - heating
4. Return connection - heating
5. Valve body 1/2'', straight, type 146909 or type 346909
6. Thermoelectric actuator, type 146906
7. Return shut-off valve 1/2'', straight, type 145952
8. Pipe openings, punched
9. Filter (optional)
**1.43 Katherm HK - Heating or cooling with EC crossflow fan assistance**

*Ready-to-install floor duct convectors*

**Installation instructions**

**Katherm HK 400, 4-pipe, duct height 132 mm**

1. Flow connection - cooling
2. Return connection - cooling
3. Flow connection - heating
4. Return connection - heating
5. Valve body 1/2", straight, type 146909 or type 346909
6. Thermoelectric actuator, type 146906
7. Return shut-off valve 1/2", straight, type 145952
8. Pipe openings, punched
9. Filter (optional)

---

**Plan view, Water connection, room side**

**Plan view, Water connection, front end**

**Front view, Connection openings**

**Cross-section, water connection, cooling**

**Cross-section, water connection, heating**

---

Kampmann. Genau mein Klima.
8. Connection of condensation pump assembly kit

8.1 Condensation pump assembly kit

If the removal of condensation is not feasible using the natural gradient, an appropriate assembly kit can be ordered as a separate accessory depending on the particular model of Katherm HK.

1. Bracket for float module
2. Bracket for pump unit
3. Curved piece for condensation hose (only needed with 132 mm duct height)
4. Condensation hose with clamps
5. Float module
6. Pump unit
7. Screws

8.2 Connection of assembly kit for 132 mm duct height

Important! Note the increased duct height following installation of the assembly kit. First fit the condensation pump assembly kit, then the valves to connect the water supply (with 4-pipe systems).

Step 1: Remove narrow base panel on the right-hand connection side by unscrewing the screws. In its place fit the bracket for the float module ① and screw in place with the screws provided.

Step 2: Screw the bracket for the pump unit ② using the screws provided onto the metal angle provided for this purpose.
Installation instructions

**Step 3:** Insert the float module ③ and the pump unit ④ into the bracket.

**Step 4:** Fix a section of condensation hose ⑤ using one of the clamps to the drain connection on the condensation tray ⑥. Connect the curved piece ⑦ to the section of condensation hose ⑥, which in turn is fixed to the float module ③.

**Step 5:** Please refer to the separate installation manual for further information on the correct installation of the condensation pump and also to chapter 9 Wiring.

---

8.3 Connection of assembly set for duct height 150 mm

**Caution!** Please note the increased duct height due to installation of the assembly kit. First fit the condensation pump assembly kit and then the valves for the water pipes (with 4-pipe system).
**Step 1:** Remove narrow base panel on the right-hand connection side by unscrewing the screws. In its place fit the bracket for the float module ① and screw in place with the screws provided.

**Step 2:** Screw the bracket for the pump unit ② using the screws provided onto the metal angle provided for this purpose.

**Step 3:** Insert the float module ③ and the pump unit ④ into the bracket.

**Step 4:** First fix a section of condensation hose ⑤ using one of the clamps to the drain connection on the condensation tray ⑥ and then to the float module ③.

**Step 5:** Please refer to the separate installation manual for further information on the correct installation of the condensation pump and also to chapter 9 Wiring.
8.4 Connection of condensation pump for duct height 190 mm

Window side

Room side

1. Drain connection on condensation tray
2. Section of condensation hose with clamp
3. Float module
4. Pump unit
5. Filter (optional)

8.5. Connection data for condensation pump

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. pump height</td>
<td>8 m</td>
</tr>
<tr>
<td>Max. pump volume</td>
<td>3 l/h</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>230 V/50 Hz (separate mains cable required)</td>
</tr>
<tr>
<td>Power consumption</td>
<td>20 W</td>
</tr>
<tr>
<td>Condensation pressure line</td>
<td>DN 6 mm (hose connection)</td>
</tr>
<tr>
<td>Alarm contact for condensation overflow</td>
<td>Changeover contact, potential-free; switching capacity 230 V/8 (5) A</td>
</tr>
</tbody>
</table>

9. Quantity of installation feet

<table>
<thead>
<tr>
<th>Duct length [mm]</th>
<th>Quantity of install. feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1250</td>
<td>2</td>
</tr>
<tr>
<td>2000</td>
<td>2</td>
</tr>
<tr>
<td>2750</td>
<td>2</td>
</tr>
</tbody>
</table>
10. Maintenance

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

Filter
- Regularly check the filters fitted above the crossflow fans for dirt and possible damage (visual inspection). This should be done every 3 months.
- If dirty, clean the filters carefully by beating them or vacuuming them. Do not clean the filters with detergent!
- Replace the filters if they are very dirty.

Fans
- Check the crossflow fans every six months for dirt and damage (visual inspection).
- If dirty, clean the fan blades with a cloth.

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

Condensation drain
- Check the condensation drain every 12 months to ensure that it is functioning correctly (visual inspection).

Valves
- Also inspect the valves every 12 months and check that they are tight (visual inspection)!
11. Consumption data

<table>
<thead>
<tr>
<th>Katherm HK model</th>
<th>Duct length [mm]</th>
<th>20</th>
<th>40</th>
<th>60</th>
<th>80</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>HK 340, H 132 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-pipe / 4-pipe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HK 400, H 132 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-pipe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1250</td>
<td>4.0</td>
<td>59</td>
<td>4.4</td>
<td>64</td>
<td>5.1</td>
<td>74</td>
</tr>
<tr>
<td>2000</td>
<td>4.8</td>
<td>72</td>
<td>5.2</td>
<td>81</td>
<td>5.9</td>
<td>99</td>
</tr>
<tr>
<td>2750</td>
<td>7.2</td>
<td>108</td>
<td>7.8</td>
<td>122</td>
<td>8.9</td>
<td>149</td>
</tr>
<tr>
<td>HK 340, H 150 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-pipe / 4-pipe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HK 340, H 190 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-pipe / 4-pipe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1250</td>
<td>4.3</td>
<td>64</td>
<td>4.7</td>
<td>70</td>
<td>5.3</td>
<td>80</td>
</tr>
<tr>
<td>2000</td>
<td>5.1</td>
<td>76</td>
<td>5.5</td>
<td>87</td>
<td>10.3</td>
<td>110</td>
</tr>
<tr>
<td>2750</td>
<td>7.7</td>
<td>114</td>
<td>8.3</td>
<td>131</td>
<td>15.5</td>
<td>165</td>
</tr>
<tr>
<td>HK 340, H 190 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-pipe / 4-pipe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HK 340, H 190 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-pipe / 4-pipe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1250</td>
<td>4.8</td>
<td>81</td>
<td>5.7</td>
<td>90</td>
<td>7.5</td>
<td>105</td>
</tr>
<tr>
<td>2000</td>
<td>9.6</td>
<td>162</td>
<td>11.4</td>
<td>180</td>
<td>15.0</td>
<td>210</td>
</tr>
<tr>
<td>2750</td>
<td>14.4</td>
<td>243</td>
<td>17.1</td>
<td>270</td>
<td>22.5</td>
<td>315</td>
</tr>
</tbody>
</table>

*Additional power consumption of 3 W should be added for each valve drive type 146906.