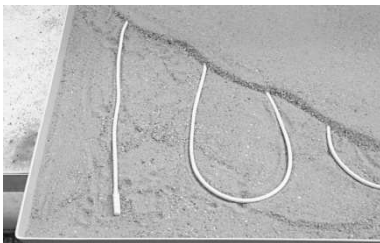




# **Installations- und Gebrauchsanweisung** **Installation and operating instruction**

**Heizkabel**  
**Heating Cable**

**HK**



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## 1. Technical Data

Voltage: 230 V/50 - 60 Hz

Degree of protection: IP68

Protection class: II

Device type:	Power:	Area:	
HK 4.3	25 W	0.40 m <sup>2</sup>	
HK 6.0	50 W	0.80 m <sup>2</sup>	
HK 7.5	75 W	1.20 m <sup>2</sup>	DIN EN tested
HK 10.0	100 W	1.60 m <sup>2</sup>	CE approved
HK 25.0	320 W	4.50 m <sup>2</sup>	Made in EU

## IMPORTANT

Prior to installation, read through and take note of these instructions, as well as the general safety and hazard information. Keep this booklet in a safe place for future reference. If you have any doubts about the safety of this device, please seek advice from a specialist. If using the device in a greenhouse, make sure that the electrical connections have been made by a qualified electrician.

## 2. General Remarks

After unpacking and prior to first use, make sure that the heating cable and all the relevant accessories are fully in order. If you find any evidence of damage in transit, please contact the relevant distributor or manufacturer immediately. The packaging materials (polythene bag, polystyrene, staples, etc.) should not be left within reach of children, as they are a potential hazard.

At no point may the heating cable touch, cross or overlap on itself. This will cause the heating cable to overheat.

The length of the heating cable cannot be altered. If it is shortened, there is a risk of overheating; if it is lengthened, it will no longer be able to generate the required amount of heat. Any attempt to physically alter the heating cable will render the warranty invalid. The heating cable is irreparable once it has been cut.

The heating cable must be protected against wear if it is installed in a location where it may be damaged (e.g. rodent damage, risk of falling icicles, etc.)

The heating cable may only be connected to a 230 V ~/50 - 60 Hz AC power source. It must be protected against extreme dirt and contamination. Any use other than that described above may result in damage to the heating cable and is also hazardous, with the possibility of short circuiting, fire, and electric shocks, etc. The safety and installation instructions must be followed at all times.

### **3. Safety and Hazard Information**

- Only a 230 V ~, 50/60 Hz mains socket connected to the public mains supply should be used as the power source. Never try running the device off a different voltage.
- If you have any doubts about the way the device is operating, its safety or its connection to the mains, you should contact a specialist electrician.
- Never connect the heating cable to the mains when it is coiled up. This can result in damage to the cable due to overheating or fire.
- The length of the heating cable must not be altered.
- The minimum bending radius of the heating cable (1 cm) must be observed.
- When working on the heating cable or in the vicinity of the heating cable, the device must be disconnected from the mains supply.
- You should never connect or disconnect the mains plug with wet hands.
- Do not pull on the mains lead itself, but always grasp the grip surfaces of the mains plug to remove it from the socket.

- The plug connection must not be subjected to any tension, pressure or torque.
- During assembly, make sure the heating cable does not get squashed or damaged by sharp edges. If damage of this type results in any bare patches on the cable, under no circumstances may the heating cable be connected to the mains supply. **Danger of electrocution!**
- Always remove the mains plug from the socket before cleaning the heating cable. Only use a damp cloth to clean it.
- If the device is not to be used for longer periods, always remove the mains plug. During such times, store your heating cable in a sheltered and dry place.
- If you are led to believe that safe operation of the heating cable might be compromised, disconnect the cable from the mains and ensure it cannot be used by mistake. This applies if:
  - The heating cable shows visible signs of damage
  - The heating cable no longer works
  - It has been stored for longer periods in unfavourable conditions
  - It has been subjected to serious stresses in transit
- Mains-powered devices should be kept out of the reach of children.
- These operating instructions are an integral part of the device and should be kept in a safe place. If the device is transferred to a third party, these operating instructions should accompany it.
- On trade premises there should be compliance with the accident prevention regulations of the professional trade association for electrical installations and equipment.
- If you are not sure on how to connect up the device, or you have any questions that cannot be answered on the basis of these operating instructions, contact the manufacturer or a specialist.
- This device is not intended for use by anyone (including children) who is restricted in his/her physical, sensory or mental capacities, nor by anyone without sufficient experience or knowledge of the product, unless such a person is supervised and instructed during its use by another who is responsible for that person's safety.

#### **4. Installation and Operation**

Electrical equipment must be connected to FI-protected sockets when operated in damp areas or outdoors. Make sure that this is the case at the intended installation location prior to starting the device. When using multiple sockets or an extension cable, make sure that the maximum current carrying capacity is not exceeded.

Make sure that the heating cable is disconnected from the mains before and during installation.

Install the cable so that it does not represent a trip hazard, or become squashed, or come into contact with hot items. Only use extension cables that correspond to the device power rating and comply with the applicable safety regulations.

##### ***Creating a seed bed***

- Create a frame from wooden boards 150 - 220 mm high and 15 mm thick.
- Line the inside of the frame with plastic film.
- Place Styrofoam pieces 2 - 5 cm thick at the bottom of the frame to prevent heat loss through the ground.
- Cover the Styrofoam bottom with a layer of damp quartz sand up to 5 cm deep.
- Now lay the cable in S figures, each around 8 cm apart. Note that the first metre from the plug is not heated and is only used as a connecting cable.
- Now cover the area with another layer of damp quartz sand 4 - 5 cm deep.
- Now place your seed pots and trays on the sand. Fill the space in between with damp peat to prevent heat escaping.

The temperature obtained depends on various factors. The temperature inside the greenhouse is an important factor. It is recommended that the greenhouse temperature is maintained at around 7°C to achieve a temperature between 18 and 21°C in your seed bed. If the ambient temperature is below 7°C, you can shorten the gap between the heating cable to increase the temperature in the bed. The layer of sand is also important – if it is too thin, the heat generated cannot be adequately stored and sudden periods of cold in the greenhouse cannot be absorbed. This becomes quickly evident when germination becomes irregular and some plants even die.

In extremely cold weather, it may be beneficial to preheat the seed bed before placing the seed trays on the sand. Once the second layer of damp sand has been added, the entire bed should be covered with a thick layer of newspaper and then covered with plastic film. Then connect the cable to the power supply to thoroughly heat the entire bed for 24 - 48 hours.

Periodically check that the sand is consistently damp throughout. Dry patches can result in the heating cable burning out.

### ***Bio Green recommends:***

As an alternative to building a seed bed yourself, we recommend our watering troughs with integrated capillary mat (order number: BW 055-065).

To maintain exact constant temperatures and prevent the heating cable from overheating, we recommend our Thermo2 thermostat (order number: TER2) with a control range of 0 - 40°C.

If you wish to use your heating cable directly in the ground of your greenhouse, we recommend laying it at a depth of around 10 - 12 cm. When working in the greenhouse, the heating cable must always be disconnected from the power supply.

## 5. Cleaning, Repair and Disposal

- Do not use any abrasive, corrosive or cleaning agents.
- Always remove the mains plug before cleaning the cable.
- Only use a damp cloth to clean the housing.
- When disposing of devices, always take them to an appropriate collection site.
- Repairs may only be performed on the device by approved specialists. You should therefore contact the manufacturer or distributor in such an event.
- **Please note:** In the event of improper repair, the warranty is rendered null and void.
- Improperly executed repairs may represent a hazard both for the user and other persons.

## 6. Warranty and Maintenance

All BioGreen products are covered by a 2 year unlimited manufacturer's warranty (from date of purchase). This excludes damage due to use of force, improper use, or failure to follow these operating instructions or the instructions relating to cleaning and maintenance.

The manufacturer accepts no liability for any damage due to frost, inadequate heat output, or due to inadequate heat insulation.

### Important Note

Opening of the device and any repair work may only be performed by approved specialists in compliance with the relevant repair specifications. Only original parts may be used on the device.

We can only guarantee problem-free operation and reliability if the device is installed and used properly. This also applies in regard to the statutory provisions relating to technical production equipment as well as current accident prevention legislation.

If you have any further questions, please contact our BioGreen service:

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