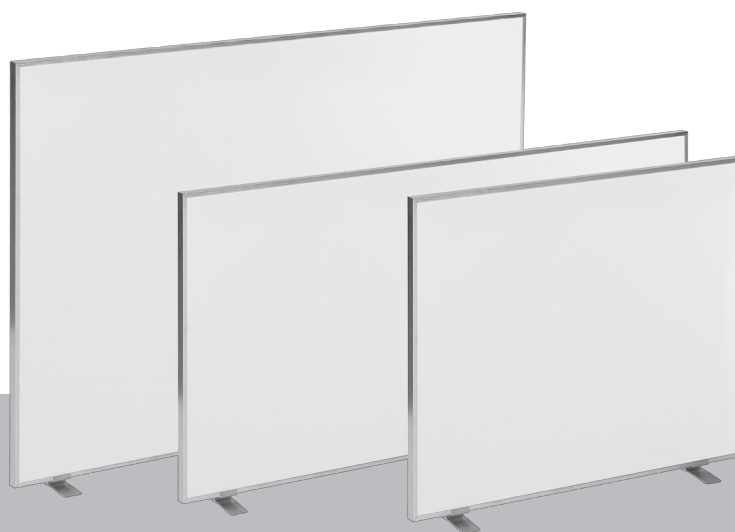


TIH 300 S / TIH 400 S / TIH 500 S / TIH 700 S / TIH 900 S / TIH 1100 S

EN

OPERATING MANUAL
INFRARED HEATING PANEL



EN This product is only suitable for well insulated spaces or occasional use.

 **TROTEC**

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Notes regarding the operating manual

Symbols



Warning of electrical voltage

This symbol indicates dangers to the life and health of persons due to electrical voltage.



Warning of hot surface

This symbol indicates dangers to the life and health of persons due to hot surface.



Warning

This signal word indicates a hazard with an average risk level which, if not avoided, can result in serious injury or death.



Caution

This signal word indicates a hazard with a low risk level which, if not avoided, can result in minor or moderate injury.

Note

This signal word indicates important information (e.g. material damage), but does not indicate hazards.



Info

Information marked with this symbol helps you to carry out your tasks quickly and safely.



Follow the manual

Information marked with this symbol indicates that the operating manual must be observed.

You can download the current version of the operating manual and the EU declaration of conformity via the following link:



TIH 300 S

<https://hub.trotec.com/?id=40358>



TIH 400 S

<https://hub.trotec.com/?id=40359>



TIH 500 S

<https://hub.trotec.com/?id=40364>



TIH 700 S

<https://hub.trotec.com/?id=40365>



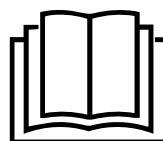
TIH 900 S

<https://hub.trotec.com/?id=40360>



TIH 1100 S

<https://hub.trotec.com/?id=40366>



Safety

Read this manual carefully before starting or using the device. Always store the manual in the immediate vicinity of the device or its site of use.



Warning

Read all safety warnings and all instructions.

Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.



Warning

Children of less than 3 years should be kept away from the device unless continuously supervised.

Children aged from 3 years and less than 8 years shall only switch on/off the appliance provided that it has been placed or installed in its intended normal operating position and they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Children aged from 3 years and less than 8 years shall not plug in, regulate and clean the appliance or perform user maintenance.



Warning

Do not use the device in small rooms if persons are present who cannot leave the room independently and who are not under constant supervision.

- Do not use the device in potentially explosive rooms or areas and do not install it there.
- Do not use the device in aggressive atmosphere.
- Only put up the device in an upright, stable position on firm ground.
- Let the device dry out after a wet clean. Do not operate it when wet.
- Do not use the device with wet or damp hands.
- Do not expose the device to directly squirting water.
- Never insert any objects or limbs into the device.
- Do not cover the device during operation.
- Do not remove any safety signs, stickers or labels from the device. Keep all safety signs, stickers and labels in legible condition.
- Do not sit on the device.
- This appliance is not a toy. Keep away from children and animals. Do not leave the device unattended during operation.
- Check accessories and connection parts for possible damage prior to every use of the device. Do not use any defective devices or device parts.
- Ensure that all electric cables outside of the device are protected from damage (e.g. caused by animals). Never use the device if electric cables or the power connection are damaged!
- The mains connection must correspond to the specifications in the Technical annex.
- Insert the mains plug into a properly fused mains socket.
- Observe the device's power input, cable length and intended use when selecting extensions to the power cable. Completely unroll extension cables. Avoid electrical overload.
- Before carrying out maintenance, care or repair work on the device, remove the mains plug from the mains socket. Hold onto the mains plug while doing so.
- Switch the device off and disconnect the power cable from the mains socket when the device is not in use.
- Do not under any circumstances use the device if you detect damages on the mains plug or power cable. If the power cable is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard. Defective power cables pose a serious health risk!
- When installing the device, observe the minimum distances from walls and other objects as well as the storage and operating conditions according to the technical data (chapter Technical annex).
- Never drill into the heating panel.
- Keep a safety distance of at least 1 m between the device's radiator side and all combustible materials such as textiles, curtains, beds and sofas.
- Do not place the device on combustible ground.
- Do not transport the device during operation.
- Only use original spare parts, for otherwise safe and functional operation cannot be ensured.
- Allow the device to cool down before transport and/or maintenance work.
- The device must be set up in a way that the switches and controllers cannot be touched by a person in a bathtub or shower.

- Do not use the device if it has been dropped or if it shows visible signs of damage.

Intended use

The device is only suitable for well insulated spaces or occasional use.

Only use the device for heating surfaces indoors.

The device is suitable for wall mounting.

Intended use comprises:

- heating surfaces
 - in living spaces,
 - in storage facilities,
 - in salesrooms,
 - in construction areas,
 - in containers,
 - in wet rooms in compliance with the local or national regulations for the operation of electrical equipment in wet rooms.

Foreseeable misuse

- Do not use the device out of doors.
- The device must not be mounted to wooden walls.
- Do not place the device on wet or flooded ground.
- Do not place any objects, e.g. clothing, on the device.
- Do not use the device for heating in vehicles.
- Do not use this device in the vicinity of fuel, solvents, varnishes or other easily inflammable vapours or in rooms where these substances are stored.
- The device may not be used as a heating device for babies / children or animals.
- Do not use this heating device in immediate proximity to bathtubs, showers or swimming pools.
- Never immerse the device in water.
- Any use other than the intended use is regarded as a reasonably foreseeable misuse.
- Any unauthorised changes, modifications or alterations to the device are forbidden.

Personnel qualifications

People who use this device must:

- be aware of the dangers that occur when working with electric devices in damp areas.
- have read and understood the operating manual, especially the Safety chapter.

Maintenance tasks which require the housing to be opened must only be carried out by specialist electrical companies or by Trotec.

Symbols on the device

Symbols	Meaning
	This symbol located on the device indicates that it is prohibited to place objects (such as towels, clothes etc.) above or directly in front of the device. In order to avoid overheating and fire hazards, the heater must not be covered.
	This symbol located on the device indicates that it is prohibited to spray the device.
	This symbol located on the device indicates dangers to the life and health of persons due to hot surface.

Residual risks



Warning of electrical voltage

Work on the electrical components must only be carried out by an authorised specialist company!



Warning of electrical voltage

Before any work on the device, remove the mains plug from the mains socket!
Do not touch the mains plug with wet or damp hands. Hold onto the mains plug while pulling the power cable out of the mains socket.



Warning of hot surface

Parts of this appliance can become very hot and cause burns. Particular attention is to be paid when there are children or vulnerable persons present!



Warning of hot surface

The surface of the device warms up during operation. Do not touch the device surface during operation and observe the minimum distance!



Warning

A falling device can cause injuries! **Always transport and assemble the device with the help of other persons.** Never stand below the device when it is suspended. Ensure adequate stability of the device's wall fixing.



Warning

Dangers can occur at the device when it is used by untrained people in an unprofessional or improper way! Observe the personnel qualifications!



Warning

The device is not a toy and does not belong in the hands of children.



Warning

Risk of suffocation!

Do not leave the packaging lying around. Children may use it as a dangerous toy.



Warning

Risk of injury due to infrared radiation!

Do not stay in the device's immediate vicinity for too long. Do not look directly into the device for too long. Observe the minimum distances.



Warning

Improper installation or mounting entails a risk of fire.



Warning

Do not use this heating device in immediate proximity to bathtubs, showers or swimming pools!



Warning

In order to avoid overheating and fire hazards, the device must not be covered!

Behaviour in the event of an emergency

1. In an emergency, disconnect the device from the mains feed-in: Hold onto the mains plug while pulling the power cable out of the mains socket.
2. Do not reconnect a defective device to the mains.

Information about the device

Device description

The device TIH 300 S / TIH 400 S / TIH 500 S / TIH 700 S / TIH 900 S / TIH 1100 S is used to quickly generate instant heat.

The device is based on the functional principle of heat generation by infrared radiation. Persons or objects are heated directly.

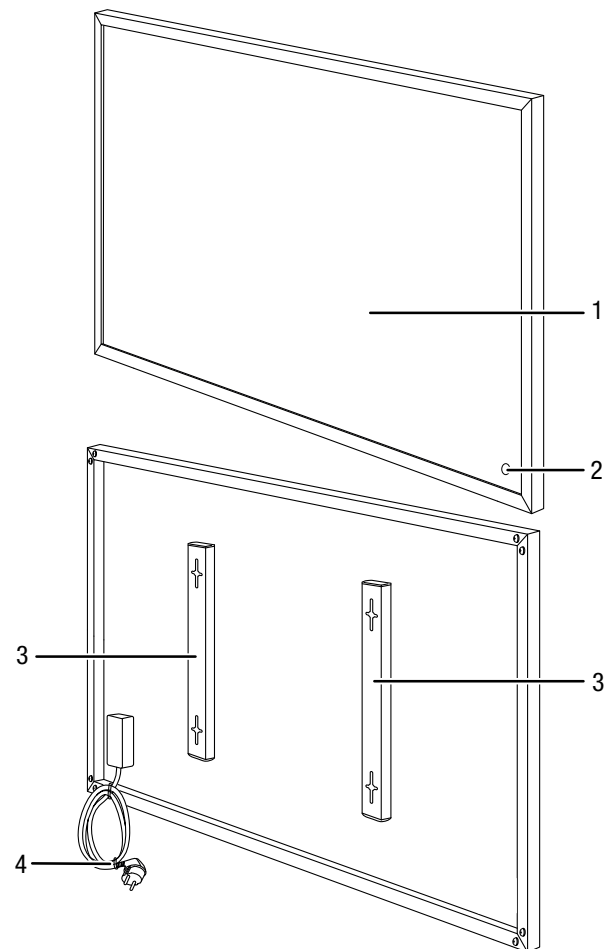
The heating panels ensure an even heat distribution in the room.



Info

The illustrations in this operating manual feature the device TIH 700 S by way of example. However, the depicted operating steps and explanations also apply to the devices TIH 300 S, TIH 400 S, TIH 500 S, TIH 900 S and TIH 1100 S unless otherwise mentioned.

Device depiction



No.	Designation
1	Heating element
2	Operating control lamp
3	Wall attachment
4	Power cable

Transport and storage

Note

If you store or transport the device improperly, the device may be damaged.

Note the information regarding transport and storage of the device.

Transport

Before transporting the device, observe the following:

- Hold onto the mains plug while pulling the power cable out of the mains socket.
- Do not use the power cable to drag the device.
- Allow the device to cool down sufficiently.

Storage

Before storing the device, proceed as follows:

- Hold onto the mains plug while pulling the power cable out of the mains socket.
- Allow the device to cool down sufficiently.

When the device is not being used, observe the following storage conditions:

- dry and protected from frost and heat
- in an upright position where it is protected from dust and direct sunlight
- with a cover to protect it from invasive dust, if necessary
- Place no further devices or objects on top of the device to prevent it from being damaged.

Assembly and start-up

Scope of delivery

- 1 x IR heating panel
- 4 x Screw
- 4 x Dowel
- 1 x Manual

Unpacking the device

1. Open the cardboard box and take the device out.
2. Completely remove the packaging.
3. Fully unwind the power cable. Make sure that the power cable is not damaged and that you do not damage it during unwinding.

Assembly

Upon delivery the device is already preassembled. The optional feet still need to be mounted.

Wall mounting



Warning

Risk of injury due to incorrect assembly!

Local or national regulations may apply for installation, especially for wet rooms. We recommend to have the installation carried out by a qualified electrician.

For wall mounting, observe the minimum distances of the device to walls and objects according to the technical data (chapter Technical annex).

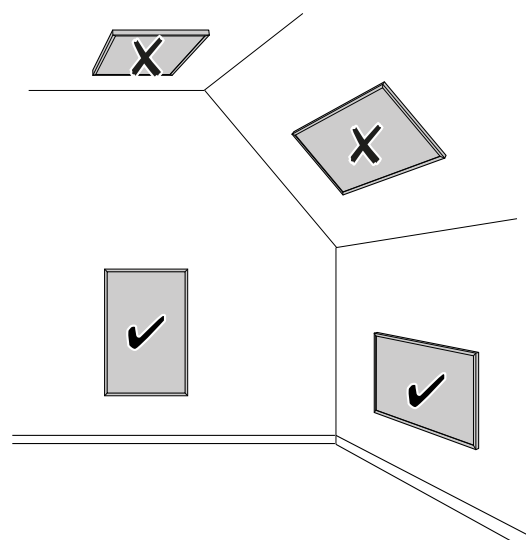


Warning

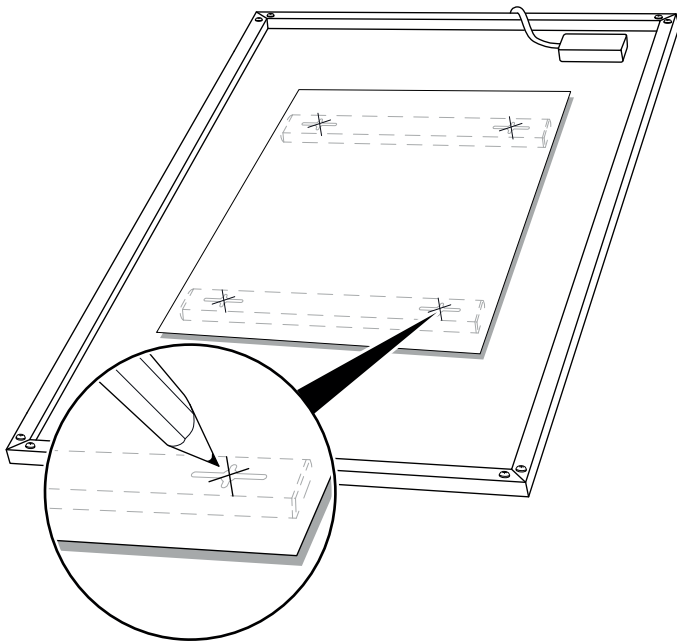
Fire hazard!

- Do not install the device directly behind a door.
- Never install the device on a wooden wall.
- Never install the device in a way that it radiates directly onto walls or other objects.

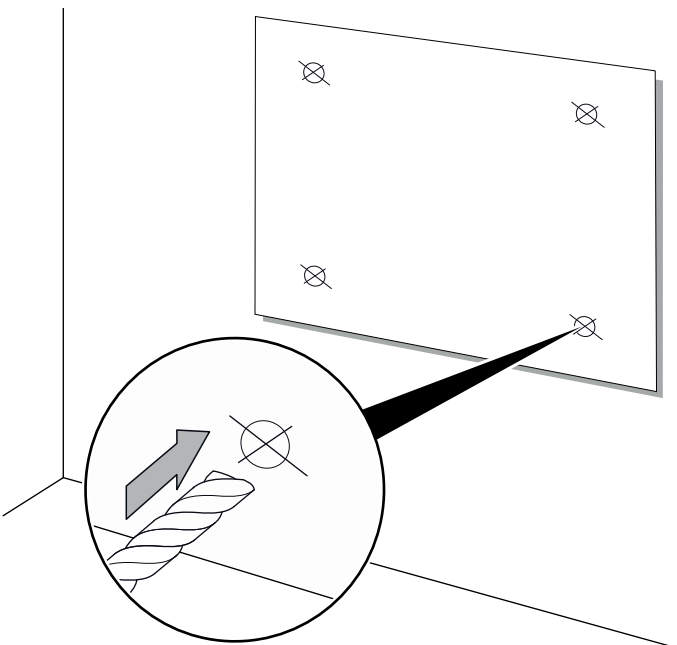
- Only install the device as shown below:



1. Spread out a suitable template over the back of the device and mark the positions for the bore holes.

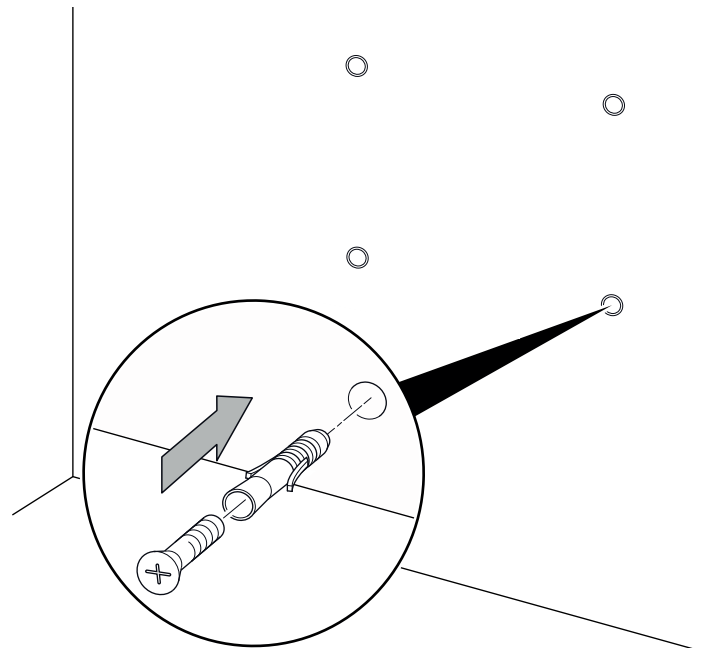


2. Attach the template to the wall using adhesive tape or similar.
3. Drill the holes into the wall at the positions marked on the template.

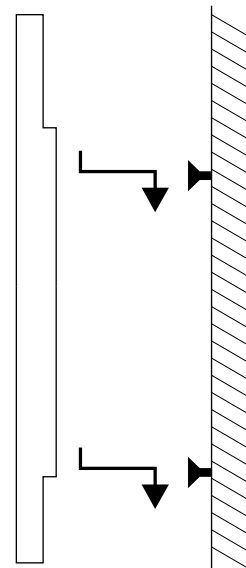


4. Remove the template from the wall.

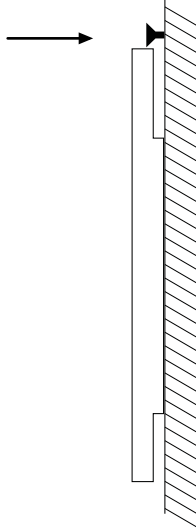
5. Insert suitable wall plugs into the drill holes.



6. Insert the screws into the wall plugs and fasten the screws.
⇒ The screws should protrude approx. 0.5 cm from the wall plugs.
7. Hang the device in.



8. Drill another hole near the top of the device. Then drive in a screw to prevent the device from falling off the wall.
 ⇒ The screw should protrude from the wall plug to a point that renders it impossible to take off the device without removing the screw first.



Mounting the feet – for TIH 300 S and TIH 400 S (optional)

The feet for the devices TIH 300 S and TIH 400 S can be optionally mounted on the lower frame of the device in order to position the device in the room.

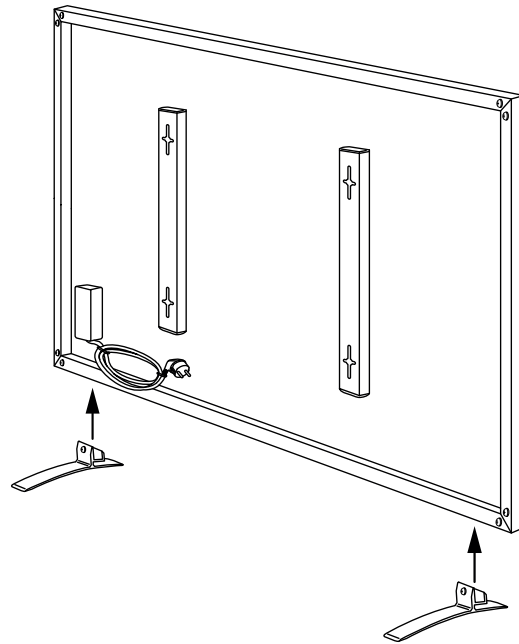
The accessories for the feet are not included in the scope of delivery.

When positioning the device, observe the minimum distances of the device to walls and objects according to the technical data (chapter Technical annex).

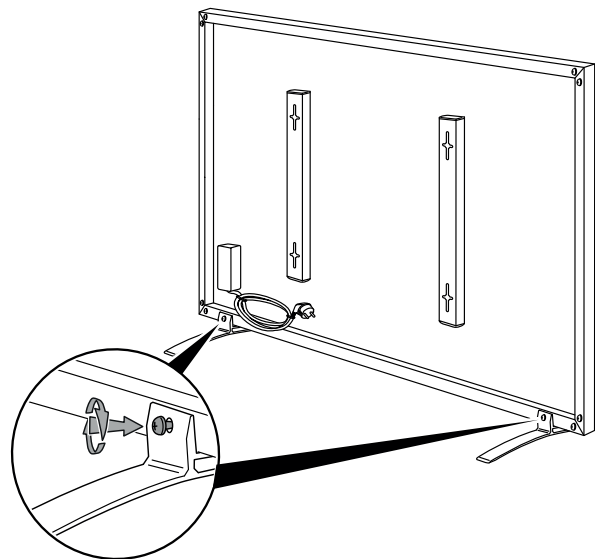
For assembling the feet, please proceed as follows:

- ✓ Work together with another person who helps you to lift the device during assembly of the feet.
1. Hold the feet available.

2. Lift the device with the help of another person.



3. Place the device on the feet.
4. The second person keeps on holding the device.
5. Screw down the feet.



6. Check whether the device is standing in a stable and upright position.

Mounting the feet – for TIH 500 S / TIH 700 S / TIH 900 S and TIH 1100 S (optional)

The feet for the devices TIH 500 S, TIH 700 S and TIH 900 S can be optionally mounted on the lateral frame of the device in order to position the device in the room.

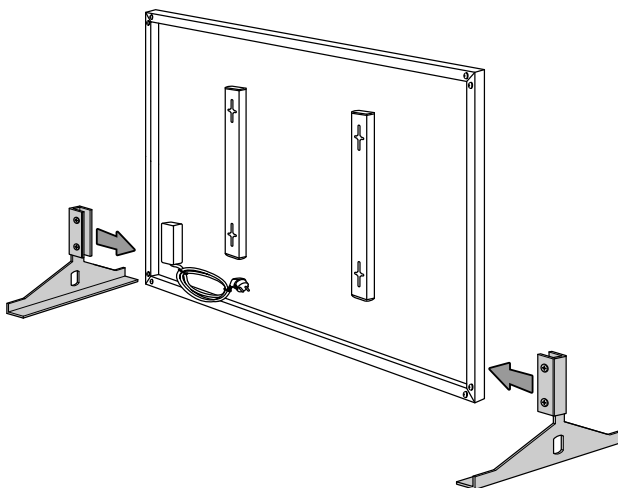
The feet of the device TIH 1100 S are attached to the side of the heating panel, this is technically uncritical and does not present a hazard.

The accessories for the feet are not included in the scope of delivery.

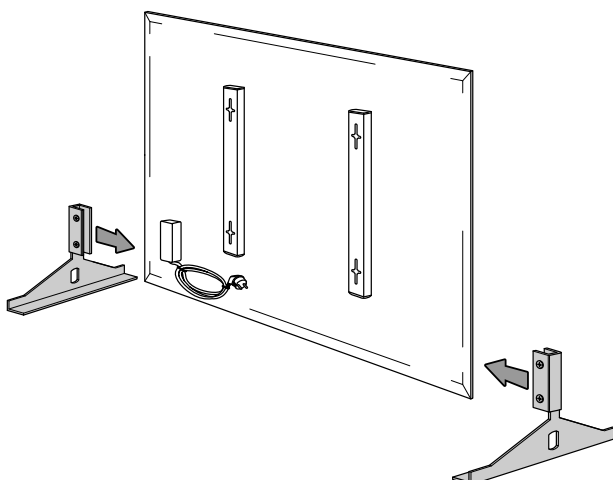
When positioning the device, observe the minimum distances of the device to walls and objects according to the technical data (chapter Technical annex).

For assembling the feet, please proceed as follows:

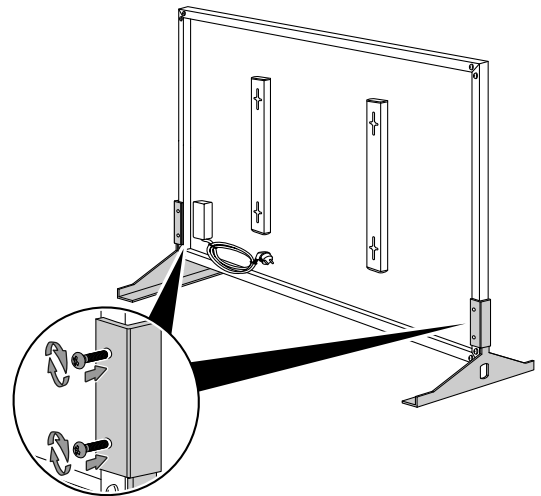
- ✓ Work together with another person who helps you to lift the device during assembly of the feet.
- 1. Hold the feet available.
- 2. Set the device up in an upright position. The second person holds the device.
- 3. **TIH 500 S / TIH 700 S / TIH 900 S:** Place the feet on the side of the frame.



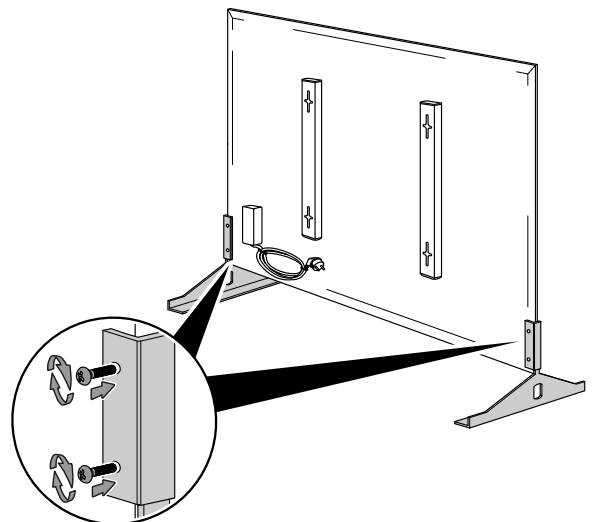
TIH 1100 S: Place the feet on the side of the heating panel.



- 5. **TIH 500 S / TIH 700 S / TIH 900 S:** Screw the feet to the frame.



TIH 1100 S: Screw the feet to the heating panel. When attaching the screws, make sure you do not drill too deep. If you notice that the screw touches the heating panel and the foot is already firmly attached, stop drilling.



- 6. Check whether the device is standing in a stable and upright position.

- 4. The second person keeps on holding the device.

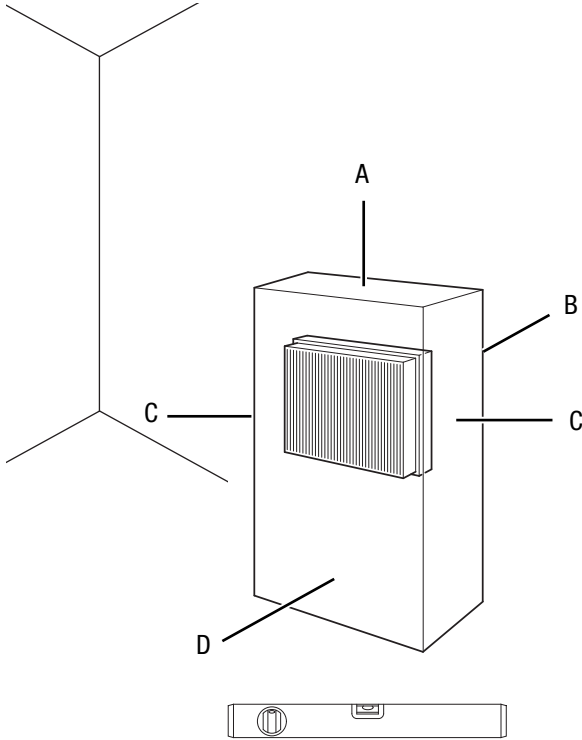
Start-up



Info

Odours might arise upon initial start-up or after a longer period of non-use.

When positioning the device, observe the minimum distance from walls or other objects as described in the chapter Technical annex.



- Before restarting the device, check the condition of the power cable. If there are doubts as to the sound condition, contact the customer service.
- Set the device up in an upright and stable position or suspend the device horizontally.
- Do not create tripping hazards when laying the power cable or other electric cables, especially when positioning the device in the middle of the room. Use cable bridges.
- Make sure that extension cables are completely unrolled.
- Make sure that there are no curtains or similar objects in the immediate vicinity.

Connecting the power cable

- Insert the mains plug into a properly fused mains socket.

Operation



Info

Avoid open doors and windows.

Switching the device on

Once you have completely installed or positioned the device as described in the chapter Assembly and start-up, you can switch it on.

1. Plug the mains plug into a sufficiently fused mains socket. Make sure that the power cable is guided along the back of the device. Never guide the power cable along the front of the device!

⇒ The operating control lamp (2) is illuminated.

Shutdown



Warning of electrical voltage

Do not touch the mains plug with wet or damp hands.

1. Hold onto the mains plug while pulling the power cable out of the mains socket.
⇒ The operating control lamp (2) goes off.
2. Allow the device to cool down completely.
3. Clean the device according to the Maintenance chapter.
4. Store the device according to the Transport and storage chapter.

Available accessories

Accessories	Article number
Set of 2 feet (for TIH 300 S / TIH 400 S)	1.410.003.001
Set of 2 feet (for TIH 500 S / TIH 700 S / TIH 900 S / TIH 1100 S)	1.410.003.099
Assembly support fastening clamps	1.410.003.004
Socket thermostat BN30	6.100.007.009

Errors and faults



Warning of electrical voltage

Tasks which require the device to be opened must only be carried out by authorised specialist companies or by Trotec.

The device has been checked for proper functioning several times during production. If malfunctions occur nonetheless, check the device according to the following list.

The device does not start:

- Check the power connection.
- Check the power cable and mains plug for damage. If you notice damages, do not try to take the device back into operation.

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

- Check the on-site fusing.
- Wait for 10 minutes before restarting the device. If the device is not starting, have the electrics checked by a specialist company or by Trotec.

The surface of the device bulges outward:

- The material expands due to heating. This is a perfectly normal process. No measures are required.

The surface of the device only heats up slightly:

- The mains voltage does not meet the requirements. Check the mains voltage.
- The ambient temperature is low. This is a perfectly normal process. No measures are required.

The device makes noises after switch-on:

- The material expands due to heating. The insulation expands as well and generates the noises. This is a perfectly normal process. No measures are required.

Note

Wait for at least 10 minutes after maintenance and repair work. Only then switch the device back on.

The device still does not operate correctly after these checks:

Please contact the customer service. If necessary, bring the device to an authorised specialist electrical company or to Trotec for repair.

Maintenance

Activities required before starting maintenance



Warning of electrical voltage

Do not touch the mains plug with wet or damp hands.

- Switch the device off.
- Hold onto the mains plug while pulling the power cable out of the mains socket.
- Allow the device to cool down completely.



Warning of electrical voltage

Tasks which require the device to be opened must only be carried out by authorised specialist companies or by Trotec.

Cleaning the device



Warning of electrical voltage

Never immerse the device in water!

Clean the device with a soft, damp and lint-free cloth. Ensure that no moisture enters the housing. Protect electrical components from moisture. Do not use any aggressive cleaning agents such as cleaning sprays, solvents, alcohol-based or abrasive cleaners to dampen the cloth.

Wipe the housing dry after cleaning.

Technical annex

Technical data

Parameter	Value		
Model	TIH 300 S	TIH 400 S	TIH 500 S
Article number	1.410.003.008	1.410.003.010	1.410.003.012
Heating capacity	300 W $\pm$ 5 %	450 W $\pm$ 5 %	580 W $\pm$ 5 %
Mains connection	1/N/PE ~ 230 V / 50 Hz	1/N/PE ~ 230 V / 50 Hz	1/N/PE ~ 230 V / 50 Hz
Nominal current	1.3 A	2.0 A	2.6 A
Connection type	CEE 7/7 (Schuko)	CEE 7/7 (Schuko)	CEE 7/7 (Schuko)
Cable length	1.9 m	1.9 m	1.9 m
Efficiency	98 %	98 %	98 %
Surface temperature	70-90 °C	70-90 °C	70-90 °C
Type of protection	IP 54	IP 54	IP 54
Weight	2.5 kg	3.5 kg	4 kg
Dimensions (width x height x depth)	605 x 505 x 22 (mm)	705 x 605 x 22 (mm)	905 x 605 x 22 (mm)
Minimum distances	top (A): 50 cm rear (B): 0 cm sides (C): 10 cm front (D): 30 cm	50 cm 0 cm 10 cm 30 cm	50 cm 0 cm 10 cm 30 cm

Parameter	Value		
Model	TIH 700 S	TIH 900 S	TIH 1100 S
Article number	1.410.003.014	1.410.003.016	1.410.003.018
Heating capacity	700 W $\pm$ 5 %	900 W $\pm$ 5 %	1100 W $\pm$ 5 %
Mains connection	1/N/PE ~ 230 V / 50 Hz	1/N/PE ~ 230 V / 50 Hz	1/N/PE ~ 230 V / 50 Hz
Nominal current	3.2 A	3.9 A	4.8 A
Connection type	CEE 7/7 (Schuko)	CEE 7/7 (Schuko)	CEE 7/7 (Schuko)
Cable length	1.9 m	1.9 m	1.9 m
Efficiency	98 %	98 %	98 %
Surface temperature	70-90 °C	70-90 °C	70-90 °C
Type of protection	IP 54	IP 54	IP 54
Weight	5.5 kg	6 kg	7 kg
Dimensions (width x height x depth)	1,205 x 605 x 22 (mm)	1,205 x 755 x 22 (mm)	1,205 x 905 x 25 (mm)
Minimum distances	top (A): 50 cm rear (B): 0 cm sides (C): 10 cm front (D): 30 cm	50 cm 0 cm 10 cm 30 cm	50 cm 0 cm 10 cm 30 cm

Information requirements for electrical local space heaters

Parameter	Value/item		
Model	TIH 300 S	TIH 400 S	TIH 500 S
Heat output			
Nominal heat output P_{nom}	0.3 kW	0.45 kW	0.58 kW
Minimum heat output (indicative) P_{min}	0.3 kW	0.45 kW	0.58 kW
Maximum continuous heat output $P_{max,c}$	0.3 kW	0.45 kW	0.58 kW
Auxiliary electricity consumption			
At nominal heat output el_{max}	NA	NA	NA
At minimum heat output el_{min}	NA	NA	NA
In standby mode el_{sb}	0.32 kW	0.32 kW	0.32 kW
Type of heat input			
Manual heat charge control, with integrated thermostat	NA	NA	NA
Manual heat charge control with room and/or outdoor temperature feedback	NA	NA	NA
Electronic heat charge control with room and/or outdoor temperature feedback	NA	NA	NA
Fan assisted heat output	NA	NA	NA
Type of heat output/room temperature control			
Single-stage heat output, no room temperature control	NO	NO	NO
Two or more manual stages, no room temperature control	NO	NO	NO
With mechanic thermostat room temperature control	NO	NO	NO
With electronic room temperature control	NO	NO	NO
With electronic room temperature control plus day timer	NO	NO	NO
With electronic room temperature control plus week timer	YES	YES	YES
Other control options			
Room temperature control, with presence detection	NO	NO	NO
Room temperature control, with open window detection	NO	NO	NO
With distance control option	YES	YES	YES
With adaptive start control	NO	NO	NO
With working time limitation	YES	YES	YES
With black bulb sensor	NO	NO	NO
Contact details	Trotec GmbH Grebbeener Straße 7 D-52525 Heinsberg		

NA = not applicable

Information requirements for electrical local space heaters

Parameter	Value/item		
Model	TIH 700 S	TIH 900 S	TIH 1100 S
Heat output			
Nominal heat output P_{nom}	0.7 kW	0.9 kW	1.1 kW
Minimum heat output (indicative) P_{min}	0.7 kW	0.9 kW	1.1 kW
Maximum continuous heat output $P_{max,c}$	0.7 kW	0.9 kW	1.1 kW
Auxiliary electricity consumption			
At nominal heat output el_{max}	NA	NA	NA
At minimum heat output el_{min}	NA	NA	NA
In standby mode el_{sb}	0.32 kW	0.32 kW	0.32 kW
Type of heat input			
Manual heat charge control, with integrated thermostat	NA	NA	NA
Manual heat charge control with room and/or outdoor temperature feedback	NA	NA	NA
Electronic heat charge control with room and/or outdoor temperature feedback	NA	NA	NA
Fan assisted heat output	NA	NA	NA
Type of heat output/room temperature control			
Single-stage heat output, no room temperature control	NO	NO	NO
Two or more manual stages, no room temperature control	NO	NO	NO
With mechanic thermostat room temperature control	NO	NO	NO
With electronic room temperature control	NO	NO	NO
With electronic room temperature control plus day timer	NO	NO	NO
With electronic room temperature control plus week timer	YES	YES	YES
Other control options			
Room temperature control, with presence detection	NO	NO	NO
Room temperature control, with open window detection	NO	NO	NO
With distance control option	YES	YES	YES
With adaptive start control	NO	NO	NO
With working time limitation	YES	YES	YES
With black bulb sensor	NO	NO	NO
Contact details	Trotec GmbH Grebbeener Straße 7 D-52525 Heinsberg		

NA = not applicable

Disposal



The icon with the crossed-out waste bin on waste electrical or electronic equipment stipulates that this equipment must not be disposed of with the household waste at the end of its life. You will find collection points for free return of waste electrical and electronic equipment in your vicinity. The addresses can be obtained from your municipality or local administration. You can also find out about other return options that apply for many EU countries on the website <https://hub.trotec.com/?id=45090>. Otherwise, please contact an official recycling centre for electronic and electrical equipment authorised for your country.

The separate collection of waste electrical and electronic equipment aims to enable the re-use, recycling and other forms of recovery of waste equipment as well as to prevent negative effects for the environment and human health caused by the disposal of hazardous substances potentially contained in the equipment.

Trotec GmbH

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