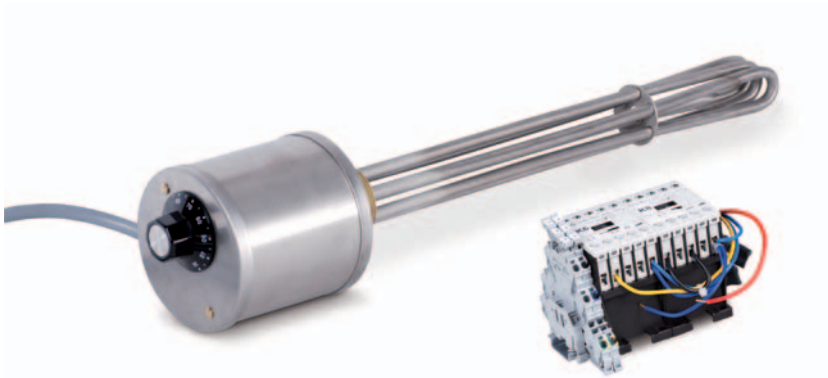


# **REMKO ELECTRIC BOOSTER HEATER WITH EMERGENCY HEATING SWITCH**

*for REMKO heat pump indoor units*



*Operation · Technology*



# REMKO ELECTRIC BOOSTER HEATER WITH EMERGENCY HEATING MODE FOR HEAT PUMP INDOOR UNITS

## Safety notes

Carefully read the operating manual before placing the unit in service for the first time. It contains useful tips and notes

 such as hazard warnings to prevent injury and material damage . Failure to follow the directions in this manual can result in endangerment to persons, the environment and the equipment itself and will void any claims for liability.

- Keep this manual in the vicinity of the units.
- The units and components should be set up and installed only by qualified personnel.
- The set-up, connection, and operation of the units and their components must be in accordance with the operating conditions stipulated in this manual and comply with all applicable local regulations.
- Modification of units and components supplied by REMKO is not permitted and can cause malfunctions.
- Units and components may not be operated in areas where there is an increased risk of damage. Observe the minimum clearances.
- The electrical supply is to be adapted to the requirements of the units.
- The operational safety of units and components is only assured if they are fully assembled and used as intended. Safety devices may not be modified or bypassed.
- Do not operate units or components with obvious defects or signs of damage.
- The units and components must be kept at a safe distance from inflammable, explosive, combustible, aggressive and dirty areas or atmospheres.
- Installation, repair and maintenance work may be carried out only by authorised specialists. Visual inspections and cleaning can be performed by the operator as long as power is disconnected from the equipment.
- To preclude any danger from the unit, take appropriate hazard-prevention measures when performing installation, repair or maintenance work or cleaning the units.

This operating manual is a translation of the German original.

## Environmental protection and recycling

### Disposal of packaging

All products are packed for transport in environmentally friendly materials. You can make a valuable contribution to reducing waste and sustaining raw materials by only disposing of packaging at approved collection points.



### Disposal of components

The manufacturing process for the units is subject to continuous quality control. Only high-grade materials are processed, the majority of which are recyclable. You can also contribute to environmental protection by only disposing of components in accordance with local regulations and in an environmentally safe manner, e.g. through authorised disposal and recycling specialists or at collection points.

## Warranty

The warranty conditions are listed in the "General terms and conditions". Please contact your contractual partner in the first instance.

## Intended use

Depending on the model, the units and the additional fittings with which they are equipped are only intended to be used as an air-conditioner for the purpose of cooling or heating the air in an enclosed space.

Any different or additional use shall be classed as non-intended use.

The manufacturer/supplier assumes no liability for damages arising from such use. The user bears the sole risk in such cases.

Intended use also includes working in accordance with the operating manual and installation instructions and complying with the maintenance requirements.

## Description

The electric booster heater is installed as an auxiliary heater in Remko IM inverter heat pumps.

It consists of a high-quality tubular heating element, which is fitted on to a 2" external thread.

They are intended for the pressure-tight operation and heating of heating water. They are distinguished by requiring no care or maintenance and being easy to operate.

The max. temperature can be set on the thermostat control. 6 kW of heating power is switched on by the heat pump manager and, after the desired water temperature is reached, back off again.

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If the water temperature falls, e.g. due to extremely low outside temperatures, then the unit's heater switches back on until the set water temperature is reached. Thanks to the inclusion of an "emergency switch", an additional 3 kW can be activated manually, for a total of 9 kW of heating power.

## Scope of delivery

- 1 pc. Protective current discharge resistor
- 1 pc. Temperature sensor
- 1 pc. Safety temperature limiter
- 2 pcs Contactors
- 1 pc. Emergency pushbutton
- 1 pc. Thermostat control

## Operation

In order to operate the electric booster heater in an economical and energy-saving manner, you should set the supply water temperatures as low as possible. Only set the infinitely variable temperature to the level you need for the actual water temperature. This saves energy and reduces the buildup of limescale in the container.

Depending on the water supply temperature, the thermostat control can be used to set the temperature to the marked points on an infinitely variable basis.

The temperatures are set using the thermostat control on the heating coil

- Storage water at approx. 40°C, warm to the touch
- Storage water at approx. 65°C, moderately hot  
In order to avoid scalding with excessively hot water, this setting is recommended ajar. It causes the unit to work particularly economically. Heat losses are low, and the buildup of limescale is largely avoided. There is only a low standby energy consumption.
- Storage water at approx. 85°C, hot



## ATTENTION

*The thermostat control's left stop position does not represent a zero or shutdown setting for the unit heater!*



## NOTE

*When operating with day current, the temperature control should not be set any higher than on setting (approx. 65°C).*

Due to the hysteresis of the temperature control ( $\pm 7^\circ\text{K}$ ) and possible radiation losses (cooling down of the pipes), the temperature data is subject to an accuracy of  $\pm 10^\circ\text{K}$ .

## Care and maintenance

### Care

- Only clean the units with a damp cloth (adding, for instance, a liquid household cleaner).  
Do not use any sharp, scouring or solvent-based cleaners.

### Maintenance

- We recommend concluding a maintenance contract with a specialist firm, which includes annual maintenance services.



#### NOTE

*This ensures the operational reliability of your equipment!*

- Regularly check the function of the safety valve.

The expansion water amount at maximum heat (approx. 80°C) represents approx. 3.5% of the tank capacity.

When the safety valve test knob is lifted or turned to the "Test" position, the water must flow unhindered out of the safety valve body into the drainage funnel.



#### ATTENTION

*This can cause the cold water supply and parts of the storage tank connection fitting to become hot!*

If the tank is not heated or when warm water is removed, no water should be dripping from the safety valve. If this does occur, either the pressure in the

water pipe is greater than the permitted value, or the safety valve is defective. If the pressure in the water pipe is higher than permitted, a pressure relief valve must be used.

In hard water areas, the limescale which forms in the tank internal boiler and the floating deposits of limescale must be removed by a specialist after one to two years of operation. Cleaning is performed through the flange opening.

1. Remove the flanged lid
2. Clean the tank.

The special enamelled inner container of the water heater must not come into contact with scaling solvent.  
Do not use an descaling pump!

3. Thoroughly flush out the unit.
4. Refit the flange, using a new seal. tightening the bolts in a crosswise pattern to a torque of 20 Nm.
5. Refit the flange lid.
6. Observe the heating process as per initial operation.

The false anode which is fitted must be checked by a specialist no longer than every 2 years of operation (however, at the latest when the part is removed in steps 3/4) and this inspection must be documented.

If servicing tasks are performed, the cleaning and servicing flange should be opened, and the tank inspected for any infiltration or soiling.

# REMKO ELECTRIC BOOSTER HEATER WITH EMERGENCY HEATING MODE FOR HEAT PUMP INDOOR UNITS

## Installing the 9 kW emergency heating coil in the CMF indoor unit

1. Remove the housing panels (Fig. 1).
2. The bottom housing panel is folded down or removed.
3. The front of the housing is secured with two screws, and can be removed in an upwards direction after undoing the screws.
4. After removing two screws, the cover of the switch cabinet can be folded down and removed.
5. After undoing the screws, the switch cabinet can be folded down to facilitate installation.
6. Remove the lid by undoing the 4 screws.
7. Shut-off valves must be closed.
8. Empty the indoor unit on the water side (drain cock).
9. Remove the 2" blanking plug from the heating cylinder (Fig. 2).
10. Use hemp to seal the electric heating coil.

### 1 Removing the housing panel



### 2 Removing the 2" blanking plug



### 3 Screwing in the electric heating coil



## Electrical connection

11. Screw in the electric heating coil (Fig. 3+4).
12. Shut-off valves must be opened again.
13. Fill up the water side and bleed the system.
14. Perform leak testing on the system.
15. Insert the cables into the electrical switch cabinet.

### 4 Screwing in the electric heating coil



#### ATTENTION

*Connect the earth conductor!*



#### ATTENTION

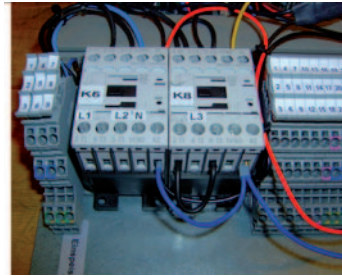
*All electrical installation work is to be performed by specialist companies. Disconnect the voltage supply when connecting the electrical terminals.*

1. Install contactors K6 and K8 as well as the additional terminals (see Figure 5+6)

### 5 Installing the contactors



### 6 Installing the additional terminals



# REMKO ELECTRIC BOOSTER HEATER WITH EMERGENCY HEATING MODE FOR HEAT PUMP INDOOR UNITS

2. Connect the cable to the terminals of contactor K6/ K8 (see Figure 7).

- Wire 1 - L1/X1.4 / K6 (see P. 9)
- Wire 2 - L2/X1.7 / K6 (see P. 9)
- Wire 3 - L3/X1.8 / K8 (see P. 9)
- Wire 4 - N/X1.5 / K6 (see P. 9)
- Attach green/yellow wire to PE ions.
- Connect wire K6 / A1 (red) to terminal X2.15.
- Connect wire K8 / A1 (yellow) to contact 14 of relay K1B.  
Connect wire K6 / K8 / A2 (blue) to terminal X2.18.

3. Close cable ducts and the electrical switch cabinet.

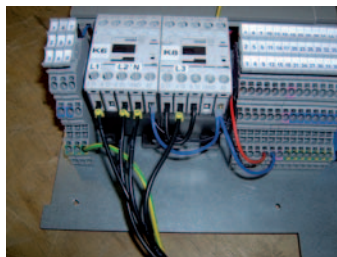
4. Set the system temperature on the thermostat on the heating element, while noting the required supply temperature of your heating system.

5. Reattach the housing panels.

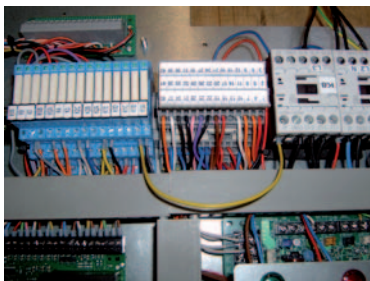
6. After professional installation of the separate power supply for the electric booster heater, place the system back in service.

7. Perform a test run of the system.

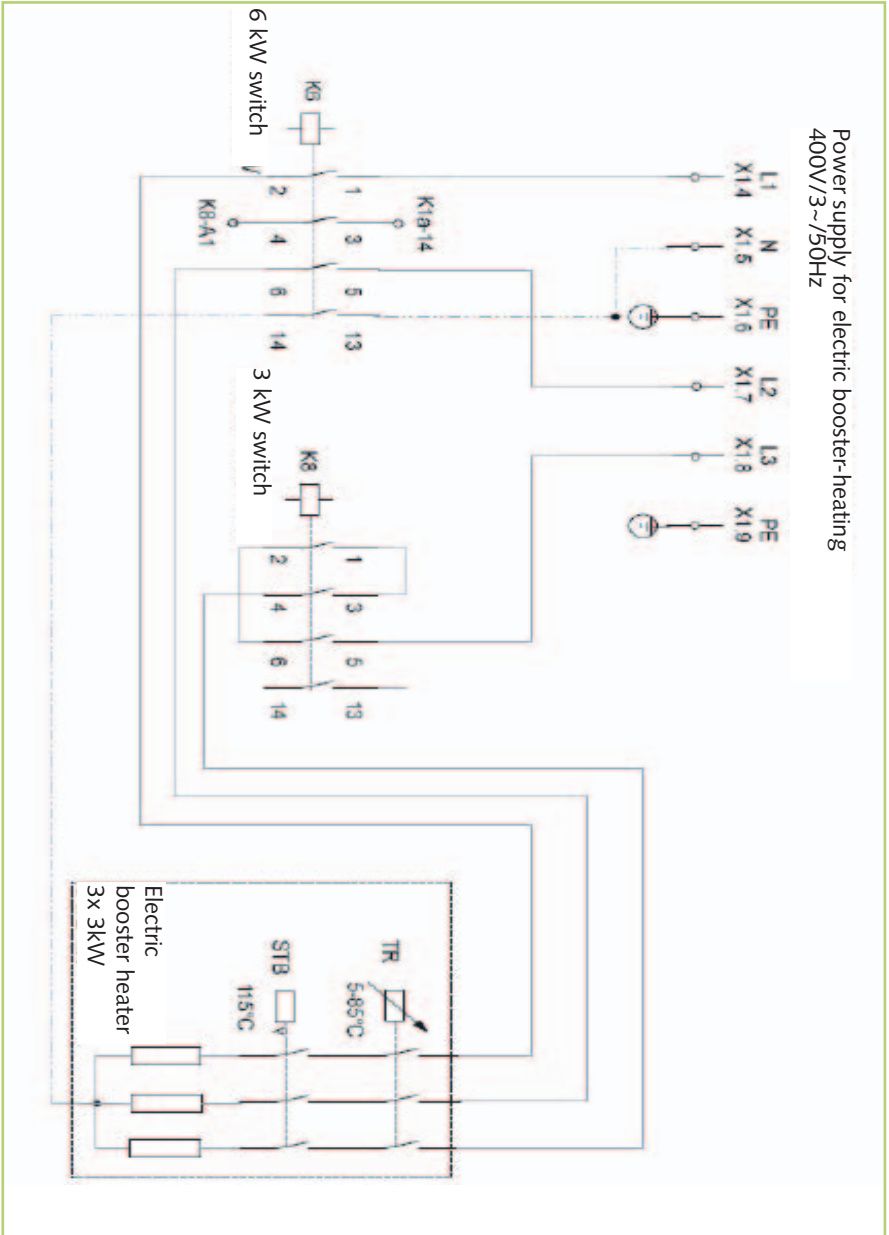
## 7 Connecting the cable



## 8 Connecting the cable

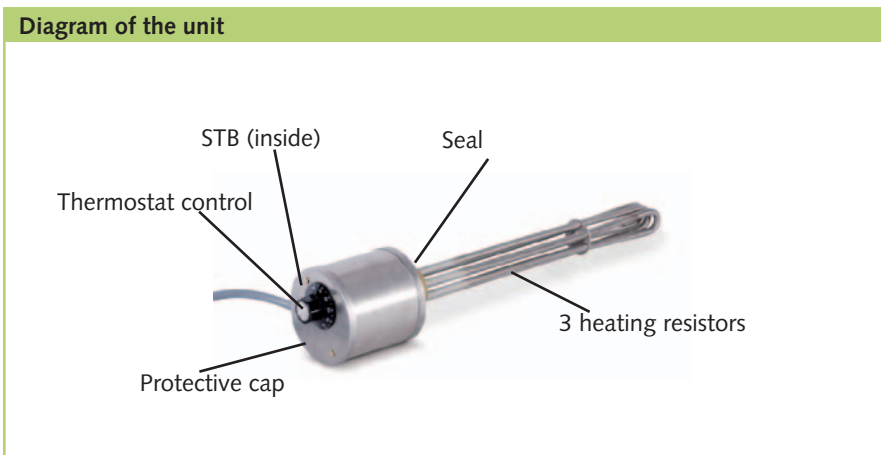


## Electrical connection diagram

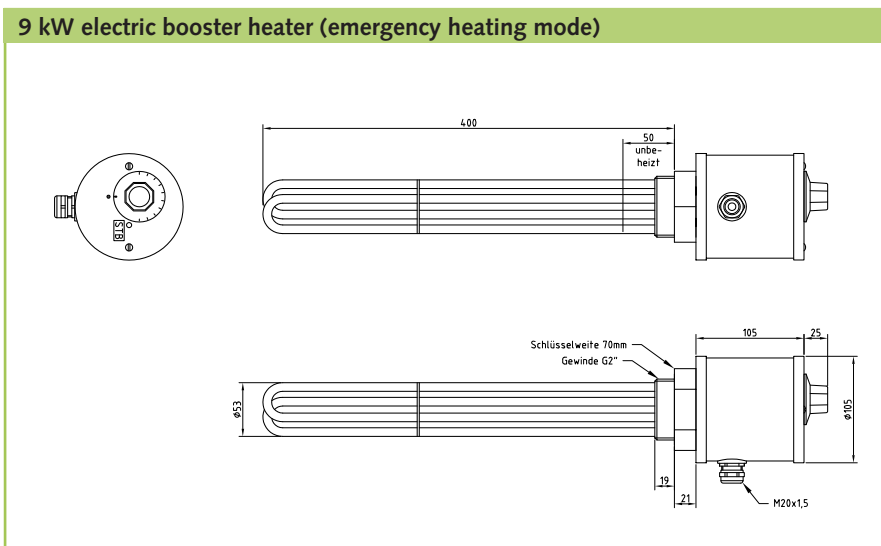


# REMKO ELECTRIC BOOSTER HEATER WITH EMERGENCY HEATING MODE FOR HEAT PUMP INDOOR UNITS

## Diagram of the unit



## Unit dimensions



We reserve the right to modify the dimensions and constructional design as part of the ongoing technical development process.

## Before commissioning

Before the system is connected to the mains electricity supply and put into service for the first time, it is vital that it is filled with water.

Adjust the thermostat control to the desired water temperature. Please note the instructions on page 4.

Check that the STB has been reset.

Switch on emergency heating mode and check that all heating coils are being supplied with voltage.

During the heating process, the expansion water generated in the internal boiler should drip out of the safety valve if there

is a pressure-tight connection, and out of the overflow mixer tap if there is an unpressurised connection (see also P. 5).



### ATTENTION

*The warm water drain pipe as well as parts of the safety equipment may become hot.*

## Technical data

Series		Electric booster heater
Installation location		To be incorporated into the indoor unit
Operating limits	°C	+40 to +85
Power supply	V/Hz	400/3~/50
Max. operating pressure	bar	10
Electr. rated power consumption	kW	3 / 6 / 9 kW (3 kW per setting)
Number of elements		3
Installation length	mm	400
Total length		580
Thread diameter	mm	2"
Serial number		768W...
EDP no.		260064

We reserve the right to modify the dimensions and constructional design as part of the ongoing technical development process.

# REMKO INTERNATIONAL

*... and right in your own location too!  
Benefit from our experience and advice*



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