
MI_2114: Heating elements - Removal and installation



iVario / iVario Pro



30 min.



Standard, torque wrench 4 Nm

06/06/2025

Topic

The information describes the removal and installation of the heating elements. At the factory, a large graphite panel covers six heating elements.

If a graphite panel is damaged, it can be replaced individually for each heating element. To do this, the graphite panel for the individual heating element must be cut out and re-inserted.

The individual graphite panel is always included in the heating element kit.

The images are exemplary and may vary depending on the unit size.

Affected product/accessories

- iVario
- iVario Pro

Required tool

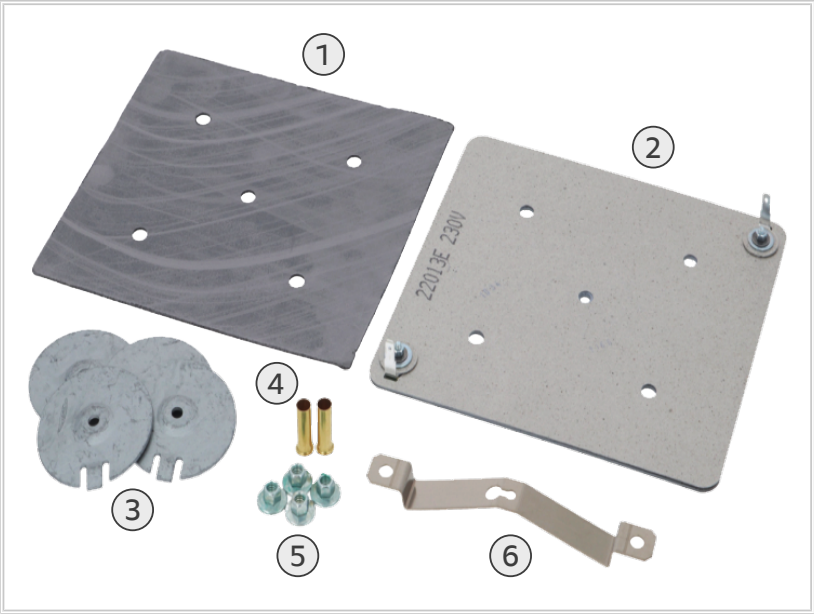
- Two centring sleeves (included in the kit)
- Torque wrench with 4 Nm

Use the manufacturer's torque wrench (article no.: W24001).



Required components

Component:	Item number:	
Heating element kit	87.00.674	230 V
	87.01.569S	208 V
	87.01.570S	400 V
	87.01.571S	460 V



Heating element kit:	
1	Graphite panel (1x)
2	Heating element (1x)
3	Pressure disc Ø 58 mm (4x)
4	Heating element centring sleeve (2x)
5	Hex combination nut (4x)
6	Heating plate thermocouple carrier (1x)

General information

NOTICE

Enter the installation of the component on the service level ("Component replacement" tab). This is an integral part of the maintenance history.

Target group

- This document is intended for skilled technicians, who have been certified by the manufacturer after attending training and safety instructions.
- Installation, inspection, maintenance, and repair work must only be carried out by trained technicians.
- It is recommended that only technicians authorised by the manufacturer perform inspection, maintenance and repair work.
- The unit may not be used, cleaned, or maintained by children. The unit may not be used for play. This is prohibited even under supervision.
- The unit may not be used, cleaned, or maintained by people with limited physical, sensory, or mental capacity or those without the necessary experience or knowledge, unless such people are supervised by a person who is responsible for their safety and who has been informed of the hazards of the unit.
- In order to prevent accidents or damage, the manufacturer recommends that technicians attend training and safety instructions.

Installation position

- The heating elements are located below the pan.

Safety instructions

DANGER

High voltages when connecting to the mains power

Danger to life due to high voltage.

- Disconnect from the power supply.
- Make sure the unit is disconnected from the power.

CAUTION

Sharp edges on the housing

Risk of cuts on the housing when working in the electrical compartment.
Wear protective gloves.

NOTICE

Faulty heating elements require the solid state relay (SSR) to be replaced

Please note that, in the event of faulty heating elements, the SSR in the corresponding circuit must also be replaced.

See Modification Instruction MI_2154.

NOTICE

Observe regional and country-specific safety and testing regulations

The relevant regional, country-specific safety and testing regulations apply to all work on RATIONAL units. These regulations may vary by region and are country-specific and are therefore not listed separately in this document.

The technician is responsible for complying with these regulations.

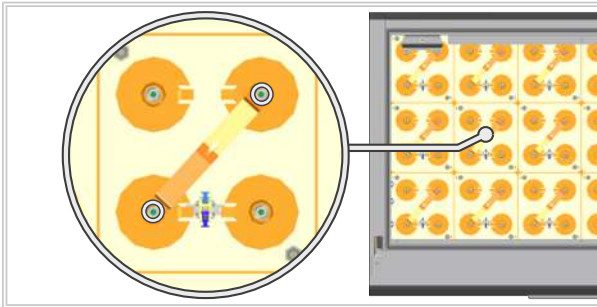
Revision Log

Changes from previous version of this manual:

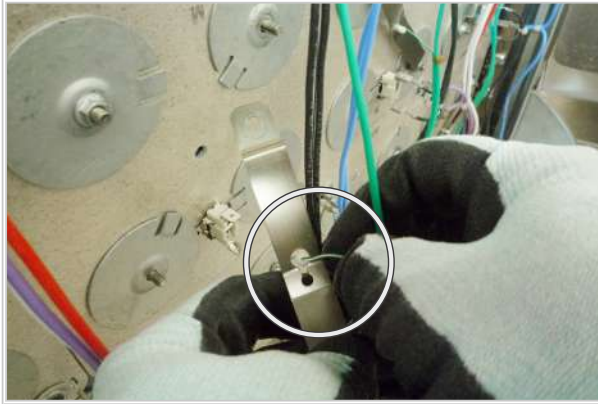
- Description of all individual parts in the kit added.
- Steps for removing and installing the graphite panel added.

Work steps – Removing the heating element.

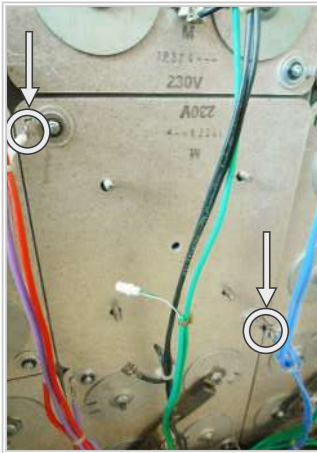
- ✓ The pan is raised.
 - ✓ The bottom of the pan cover has been removed. See the video linked at the end.
1. Perform the following steps for the appropriate heating element.
 2. Disconnect the two black cables from the safety temperature limiter (STB).
 3. Loosen the two nuts of the thermocouple carrier with a socket wrench (size 8 mm).



4. Remove the thermocouple carrier and unhook the thermocouple.



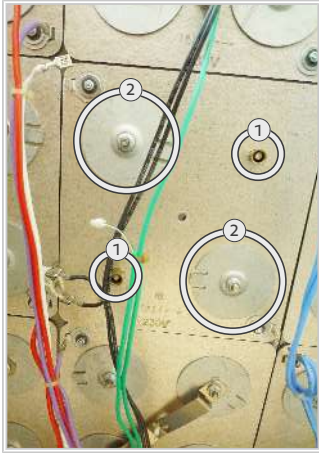
5. Remove the four pressure discs.
6. Disconnect the two cables from the power supply.



7. Remove the heating element carefully. Pay attention to the cables.
8. Check the graphite panel for damage.
 > **Graphite panel OK:** The removal is complete.
 > **Graphite panel is damaged:** Replace the graphite panel as described below.
9. Install the old heating element again to use as a template.
10. Insert the two centring sleeves supplied to ensure the correct position (see photo below under "Installing the heating element").
11. Carefully cut out the graphite panel along the heating element with a cutter knife.
 > The removal is complete.

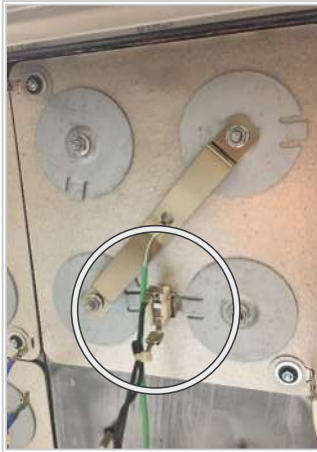
Work steps – Installing the heating element.

- ✓ If you cut out a damaged graphite panel during removal, you must install the new graphite panel supplied. Make sure that the graphite panel does not overlap.
- 1. Position the heating element in the appropriate place.
- 2. Place one centring sleeve (**1**) each into the lower left and upper right hole.
- 3. Place one pressure disc on each of the top left and bottom right bolts and tighten the nuts (**2**) slightly.



- 4. Position the safety temperature limiter (STB) under the lower right pressure disc and tighten the nut, so that the STB is easily fixed.
- 5. Tighten the two nuts (**2**) with the torque wrench (4 Nm).
- 6. Remove the centring sleeve from the bolt at the bottom left and place the pressure disc.
- 7. Position the other side of the STB under the pressure disc at the bottom left and hold it in place.
- 8. Attach the thermocouple carrier with the re-hooked thermocouple onto the pressure disc on the bottom left and top right and tighten the nuts slightly.

9. Attach the two black cables to the STB.



10. Now cross tighten all four nuts with the torque wrench (4 Nm).
 11. Reconnect the two power supply cables.
 12. Install the pan panel.
 13. Switch the unit on.
 14. Test the function of the heating element.
- >> The installation is complete.

Additional information

NOTICE

Risk of injury if the modification instructions or the installation instructions are not observed

- A video is available to accompany these instructions. Nevertheless, note the information in the modification instructions and the installation instructions for the unit.

Scan the QR code to watch the video:

The video shows how to remove the lower pan cover to access the heating elements.



https://portal.rational-online.com/fs4p/media/service/3_dokumentationen/ivario_pro___ivario/video_2/praxis_videos_1/2-SP_access_to_heating_elements_v01.mp4

