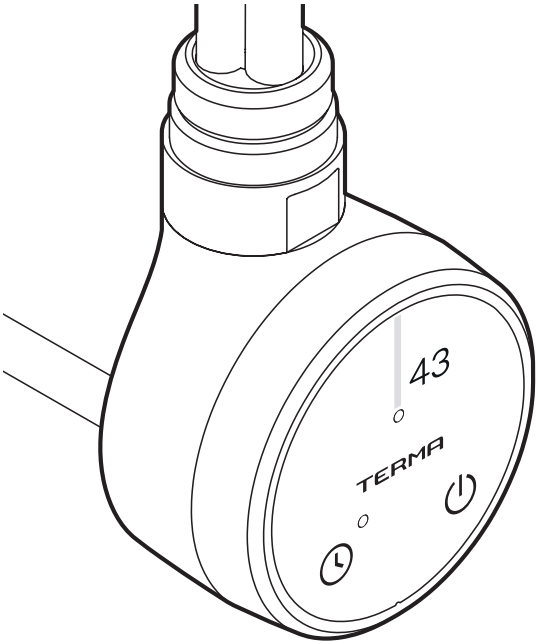


TERMA
SINCE 1990

User Manual

Electric Heating Element

Instrukcja Obsługi — Grzałka elektryczna

MOA 43D

EN | PL

User Manual

Our products have been designed and manufactured in such a way to ensure that all quality, functionality and aesthetic requirements are met. We would like to congratulate you on the purchase of this great product and wish you a pleasant experience with it.

Electric radiator

Guide to safe installation and use.

1. Do not install the heater under an electrical socket point.
2. Your electric heater should be filled with a carefully measured amount of liquid. In the case of loss of heating medium, or in any other case which demands its supplementation, contact your supplier.

3. The device is not equipped with an external temperature controller.

   Do not use the device in a small room if unsupervised disabled or incapacitated individuals are inside it. Only use the device if those individuals are under constant supervision.

4. Electric heater is not a toy. Children under the age of 3 should not be allowed within close proximity of the device without the supervision of an adult.

   Children aged 3 to 8 should only be allowed to operate the heater when it has been properly installed and connected. The child must be under adult supervision or have been trained to safely operate the device while understanding the risks.

5. Note: Some parts of the radiator can be very hot and can cause burns. Pay special attention to the presence of children or people with disabilities.

6. If the device is used as a clothes and towel dryer, ensure that the fabrics drying on it have only been washed in water, avoiding contact with any harsh chemicals.

7. To ensure the safety of very small children, install the electric dryer so that the lowest tube is at least 600 mm above the floor.

8. The device should only be installed by a qualified installer in accordance with the applicable regulations regarding safety and all other regulations.

9. All installations to which the device is connected should comply with regulations applicable in the country of installation and use.

10. Extension leads or electric plug adapters should not be used in order to supply power to the heater.

11. While connecting the radiator to electric installation ensure that the curcuit has a 30 mA residual-current circuit breaker and an appropriate overcurrent circuit breaker. With the permanent installation (cable connection without plug) it is also mandatory to have an omni-pole cut-out for disconnecting the device on all poles, by points of contact with the clearance of 3 mm.

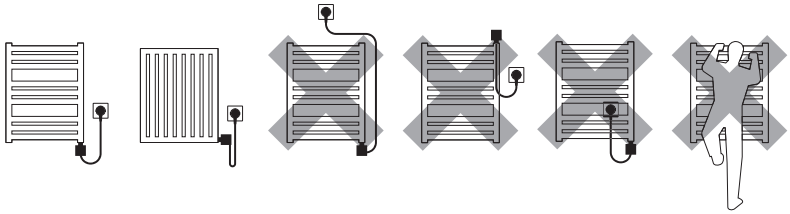
12. The device version labelled PB can be installed in bathrooms in zone 1, as defined by applicable law, subject to any additional regulations concerning electrical installations in wet areas.

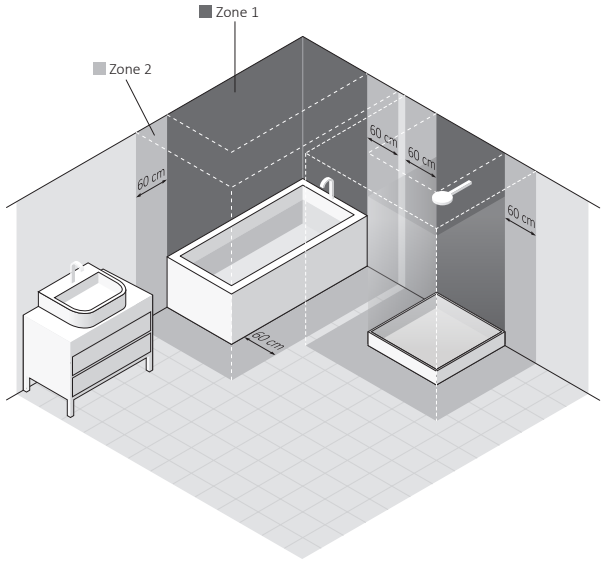
    Other versions of the device can be installed in Zone 2 or beyond.

13. The device is recommended for use solely as described in the manual.

14. Ensure that the heater has been installed on a wall in accordance with its installation manual.

15. Please forward this instruction manual to the end user.




Zone 1
Zone 2
60 cm
60 cm
60 cm
60 cm
60 cm

Electric Heating Element

Safety requirements — installation

1. Fitting and connection of the heating element should only be performed by a qualified installer.
2. Connect the unit to a sound electrical installation (see the ratings on the heater).
3. Switching on the heating element in the open air to test the device is permitted for a maximum of 3 seconds.
4. Never test a heating element that is already installed. Do not turn the heating element on in an empty radiator!
5. Ensure that the power cord does not touch the hot parts of the heating element or radiator.

6. Before installing or removing the device, make sure it is disconnected from the power source.

7. Do not open the device — any interference with internal components will invalidate the warranty.

8. Heating element's electric output **cannot exceed 60%** heating output of the radiator for the following parameters: 75/65/20°C.

9. The pressure in the radiator should not exceed 10 atm. Ensure that an air cushion is preserved in electric radiators. In central heating systems, leave one valve open to prevent pressure build up due to the thermal expansion of the liquid.

10. The device is intended for home use only.

11. Fitting and Installation of the device must be carried out in accordance with all local regulations for electrical safety, including installation within permissible locations only. Observe bathroom electrical zone regulations.

Safety requirements — use

1. The heating element must be fully submerged in the heating liquid during its operation.
2. Regularly check the device for damage to ensure it is safe to use.
3. If the power cord is damaged the device should not be used. Unplug the device and contact the manufacturer or distributor.
4. Do not allow flooding into the heating element casing.
5. Do not use the heating element in heating systems where the water temperature exceeds 82° C.
6. The heating element and radiator can heat up to high temperatures. Please be cautious — avoid direct contact with the hot parts of the equipment.
7. Do not open the heating element casing.
8. In the central heating system, always make sure that one valve of the radiator remains open.

9. Ensure that minors aged 8 and above or those with a physical or mental disability are supervised if operating the device.
10. The device is not a toy. Keep it out of the reach of children.
11. The device must be disconnected from the mains during cleaning and maintenance.
12. Cleaning of the equipment by children under 8 years of age is only permitted under appropriate supervision.

Intended use of device

The heating element is an electric device intended solely for installation in radiators (standalone or connected to the central heating system)

Heating element's electric output cannot exceed 60% heating output of the radiator for the following parameters: 75/65/20°C.

Technical information

Model markings (power cable type):	PB (Straight cable without plug) * PW (Straight cable with plug) SW (Spiral cable with plug)
Type of electrical connection:	Y
Heat outputs available:	120, 200, 300, 400, 600, 800, 1000, 1200 [W]
Power supply:	230 V / 50 Hz
Insulation class:	Class I
Towel rail connection thread:	G 1/2"
Casing protection class [IP]:	IPx5

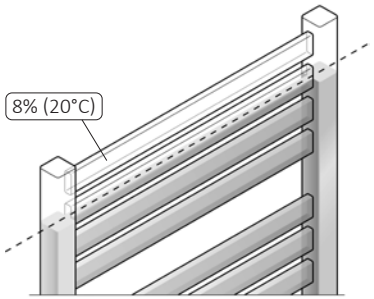
Length of heating element:

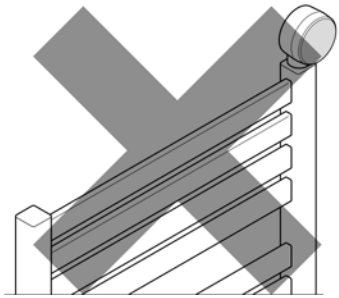
120	200	300	400	600	800	1000	1200	[W]
315	275	300	335	365	475	565	660	[mm]

* Device intended to be connected permanently to the system

Installation or removal

Detailed information demonstrating the different ways of installing or removing a radiator heating element is available from the manufacturer or importer (see footnotes at the end of the manual). Below we list some basic requirements and principles which must be followed to ensure long term, reliable operation of the product.





Before installation or first use:

1. Read the chapter *Safety requirements —Installation.*
2. Fit the heating element using the correct spanner (size 22).
3. The heating element must be installed at the bottom of the radiator, perpendicular to the radiator pipes, while preserving space for the proper circulation of the heating medium.
4. Use a suitable heating medium for filling the electric radiator, i.e. (water, special products based on water and glycol for use in central heating systems, or oil which complies with the requirements of the manufacturer of the radiator and heating element).
5. Do not switch the heating element on if it is not fully immersed in radiator heating medium.
6. Make sure an adequate air cushion is present to protect against excessive pressure build up within the heater (always leave one of the radiator valves open).
7. When filling the radiator with hot liquid insure that the liquid temperature does not exceed 60° C.

8. Follow the subsequent guidelines when connecting the electrical installation:

    a. Brown wire — live connection to the circuit (L).

    b. Blue wire — connect to neutral (N)

    c. Yellow & green wire — earth connection (PE).

9. Before filling the radiator with heating medium, ensure that the heating element is fitted properly and that it is water tight.

10. In central heating installation radiator must be fitted with the valves enabling disconnection of the radiator from the rest of the system.

11. The temperature of the heating agent in the central heating system must not exceed 82° C!

Notes prior to removal:

1. Before dismantling permanently, disconnect the heating element from the mains and ensure that the radiator is not hot.

2. Be aware. A radiator filled with liquid can be very heavy. When moving the radiator, ensure that you take the necessary safety precautions.

3. Before disassembly, close the appropriate valves and drain the radiator completely to avoid causing any damage.

Product disposal

This product should not be disposed of as general waste but should be brought to the appropriate collection point for recycling of electric and electronic devices. This information is provided by the sign on the product, user manual and packaging. Information on the appropriate point for used devices can be provided by your local authority, product distributor or the store from where the product was purchased. Thank you for your effort towards protecting the environment.

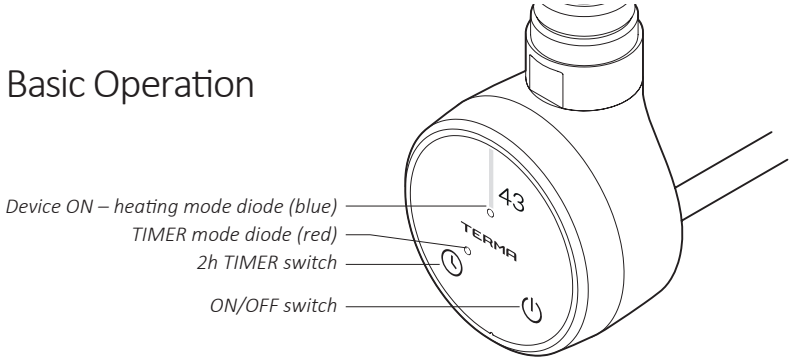
Maintenance

- Before performing maintenance, always unplug the unit from the mains system.

- Periodically check the fluid level in the radiator and ensure the heating element is completely submerged.

- Clean the product with a dry or damp cloth. If necessary, use a very small amount of detergent, ensuring that it contains no solvents or abrasives.

Basic Operation



Pressing ⏻ key switches the heating element on and the radiator will warm up to an average temperature of approximately 43°C. On the control panel blue LED lights up to indicate the current (ON) status of the heater.

Please note: surface temperature of the radiator will not be constant and may vary in places.

This is a normal phenomenon and it is due to the design of the heating element, the physical properties of the heat transfer medium in the raditor as well as other physical phenomena (convection and diffusion).

TIMER function

Pressing the 🕓 key activates 2 hour timer. Timer function automatically turns the heater off after 2 hours. Active timer mode is indicated by a red LED located near the key. Pressing the 🕓 key again during 2hr timer mode operation disables the TIMER and reverts heating elment.

Please note: pressing the ON/OFF key switches during the timer mode deactivates the timer and switches heating element off.

ANTIFREEZE function

As long as heating element is connected to the mains power supply 43D heating element temperature sensor continues to control heating medium temperature. Antifreeze function remains active even when the heater is turned off. As soon as temperature around the sensor falls below 6°C heating element will switch on automatically preventing heating medium inside the radiator from freezing.

Activation of ANTIFREEZE function is indicated by slow blue LED flashes (every 3 sec.).

Fault Indication

The heating element has a built-in protection against a risk of overheating while running in a dry radiator. This does not eliminate a possibility of temperature sensor failure. MOA 43D will display a temperature alert by means of a flashing blue LED (every 1 sec.). The alert does not mean the unit is damaged, it informs the user that the set operating temperature has been exceeded for unknown reasons.

Troubleshooting

Problem	Possible Cause	Solving the problem
The heater is connected to the mains power, no LED is on.	Connection problem.	Check the mains power cable connection to the spur.
Rapid flashing of blue LED (every 1 second).	Overheating temperature exceeded.	Disconnect heating element from the mains power supply and wait until the radiator has cool down. Connect it again and turn the heating element on. If the problem persists, contact the Supplier.
The radiator heats up to very high temperatures.	Heating element power output and radiator power output mismatch. Possibility of electronics fault.	Verify the correct heating element power output is used. If not, disconnect heater from mains and contact your supplier.

Warranty terms & conditions

1. The subject of this warranty is a Terma electric heating element. The product name and characteristics are specified on the packaging.

2. By accepting the device on purchase, the Client confirms that the product is of full value. The Client should immediately inform the Seller of any discovered faults — otherwise it will be understood that the product was faultless at the time of purchase. This refers especially to any faults or damages of the control panel case.

3. The Warranty for period for the product is 24 months from the date of purchase, but no longer than 36 months from the date of production.

4. The proof of purchase (receipt, invoice, etc.) constitutes the basis for warranty claims. Lack of the proof of purchase allows the manufacturer to reject a warranty claim.

5. This warranty does not cover any faults that are due to:
   - incorrect (not in accordance with the manual) installation, use or disassembly,
   - incorrect use of the heating element (i.e. for any purpose that is not specified by the Manufacturer as intended for this type of product),
   - product being handled by unauthorized persons,
   - fault's or damages caused by the Client after having purchased and accepted the product.

6. The Central Heating installation should be fitted with lock-shield valves, enabling disassembly of the radiator or the heating element and its control head without the necessity of emptying the whole system of the heating agent. Any problems or expenses arising from the absence of lock-shield valves in your installation cannot be used as grounds for any claims against the Supplier or Manufacturer of the device.

7. The Manufacturer is obliged to remove any production fault within 14 working days of receipt of the faulty device at the Manufacturer's premises.

8. Should the repair be impossible, then the manufacturer is obliged to replace the faulty product with a new, full-value unit of identical parameters.

9. The attached User Manual is an integral element of the Warranty. Please read it carefully prior to the installation and use of the product.