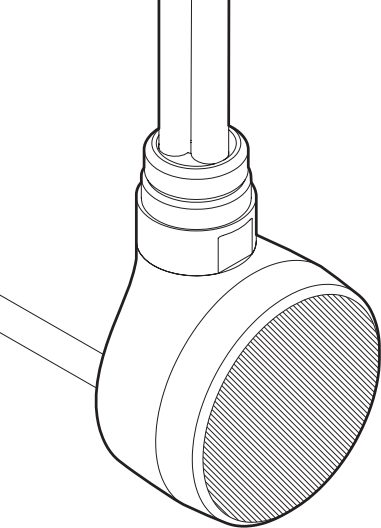




User Manual

Electric Heating Element

MOA

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.

*) Does not apply to selected models. Ask your supplier for details.

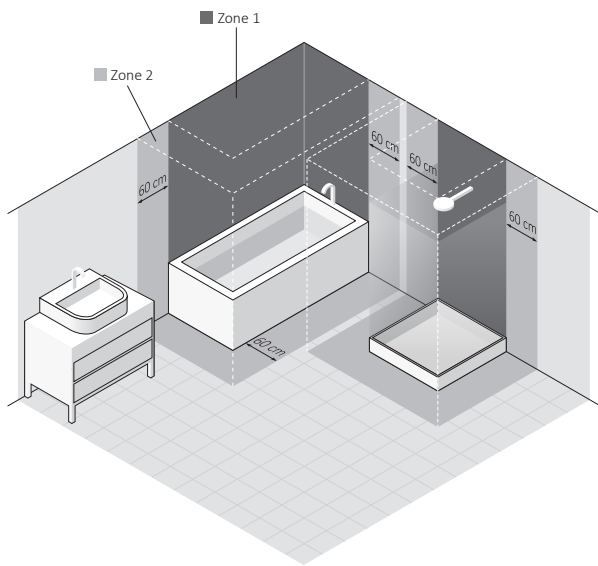
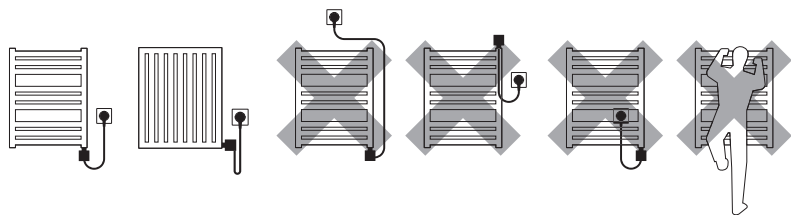
4. Electric heater is not a toy. Children under the age of 3 should not be allowed within close proximity of the device without the supervision of an adult.

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 circuit has a 30 mA residual-current circuit breaker and an appropriate over-current circuit breaker. With the permanent installation (cable connection without plug) it is also mandatory to provide an omnipolar cut-off switch with a minimum contact opening of 3 mm for disconnecting the device on all poles.
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.



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. The heating element's power output must not exceed the radiator's power output for the 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 power output should be matched with radiator output for parameters of 75/65/20° C

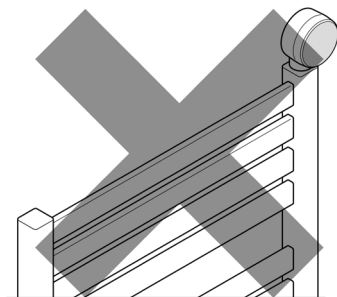
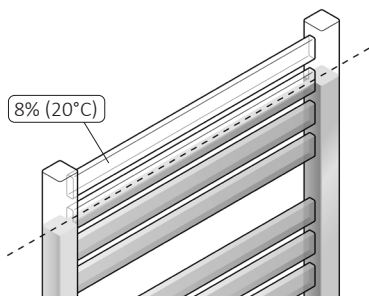
Technical information

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: MEG, MOA, MOA IR, REG 3, DRY Z: REG 2								
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]:	IPx4: MEG IPx5: REG 2, REG 3, MOA, MOA IR, DRY								
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 65° 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!
 12. For detailed installation hints — see the last pages of this manual.
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 re-cycling 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.

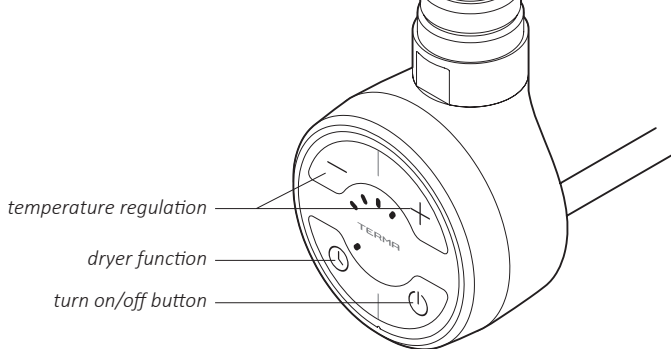
Maintenance

- 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.

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.

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Turning the device on with the  button will result in the radiator heating up to the set temperature. After reaching the set temperature the device will turn off and on regularly in order to maintain the set temperature.

The construction of the device as well as the physical characteristics of the heating agent inside the radiator, influence the way in which the heat is distributed — the temperature of the bottom pipes on the radiator (especially the two located at the very bottom of the radiator), may be lower than the temperature of the remaining parts of the radiator — this is a normal phenomenon.

Temperature increase

In order to increase the temperature of the radiator, press  once or several times as required; the correct number of diodes will start blinking. The last blinking diode indicates the set temperature, whilst the last di-

ode which shines constantly, indicates the current temperature. The remaining diodes will start shining constantly on reaching subsequent temperature levels.

Temperature decrease

In order to decrease the temperature of the radiator, press  once or several times as required; the correct number of diodes will start blinking. The last diode, which shines continuously, indicates the set temperature whilst the last blinking diode indicates the current temperature. The remaining diodes will start fading on reaching subsequent temperature levels.

Anti-freeze function

When the device is off and the temperature surrounding the temperature sensor drops to below 6°C, the device will switch on au-

tomatically. This is to prevent the heating agent inside the radiator from freezing. The activation of Anti-freeze mode is indicated by the blinking of the middle diode.

Dryer function

The Dryer turns the device on for 2 hours, e.g. in order to dry a towel. After this period of time the device automatically switches to the mode to which it was set before the dryer mode.

Dryer function can be activated during heater operation by pressing **⏻** button. You can now freely adjust desired temperature level (buttons **⊕** and **⊖**). After 2 hrs heater will revert to the previous setting (before dryer function activation). To use 2 hrs timer heating element must be switched off. Switch it on by pressing **⏻** button. After 2 hrs heater will switch off automatically.

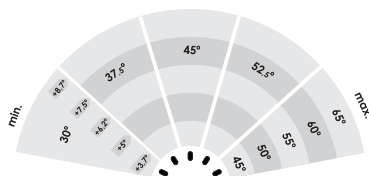
Press **⏻** button at any time to interrupt the dryer mode.

Calibrating the temperature span

The standard temperature span of the heating element is 30-60° C. It is possible to increase or decrease that span by setting a maximum temperature of between 45° C and 65° C, (minimum temperature of 30° C stays unchanged). This allows the user to

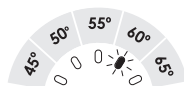
achieve a maximum temperature which is higher than the standard or to effectively heat a space with the device during lower surrounding temperatures.

Example: for the temperature regulation span of up to 45° C (30-45° C) modification by one step (one diode), means increase/decrease of temperature by 3.75° C, while for the temperature regulation span of up to 65° C (30-65° C) modification by one step means increase/decrease by 8.75° C.



In order to modify the temperature span, unplug the device and plug it back in, while pressing **⏻** button. A single diode will start blinking on the display panel. Use **⊕** and **⊖** buttons to set one of the 5 possible maximum temperatures. The first diode stands for 45° C. The following diodes refer to the following maximum temperatures: 50° C, 55° C, 60° C and 65° C.

After selecting the new temperature span press on/off button to store the new settings.



Problem solving

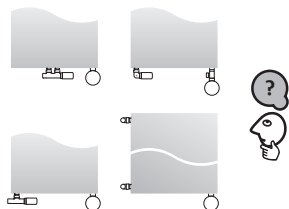
Problem	Possible cause	Solution
The device is plugged in, no diodes are on.	Problem with the connection.	Check the connection of the power wire, the plug and the socket.
Heating element is not heating, outside diodes are blinking alternately.	Temperature sensor has been damaged.	Disconnect the device completely, wait until the radiator cools down and re-connect it again.
	Overheating of device.	Check and confirm that the heating element's output does not exceed the recommended output of your radiator. Check and reduce the water temperature in the central heating system—must not exceed 82°. In electric-only version check, if the radiator is properly filled with the heating agent.
The device is heating despite turning it off with the  button.	Damaged electronics.	Disconnect the device completely, wait until the radiator cools down and re-connect it.
If the problem continues please contact Your local Distributor.		

Dual Fuel Radiator

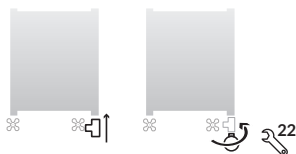
NEVER OPERATE THE HEATING ELEMENT WITH BOTH VALVES CLOSED.

HINT: Do not turn on the heating element and your central heating at the same time.

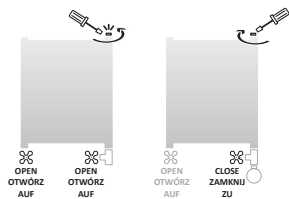
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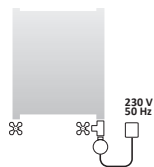
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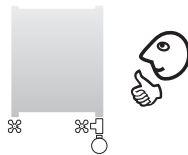
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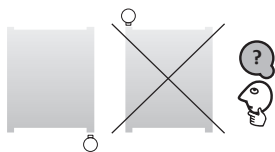


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Electric only Radiator

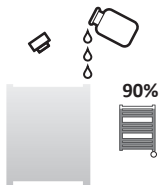
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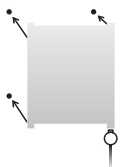
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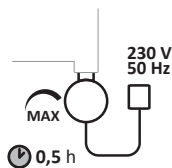
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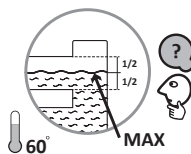
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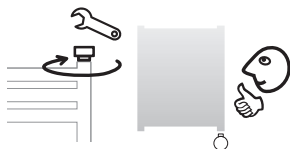
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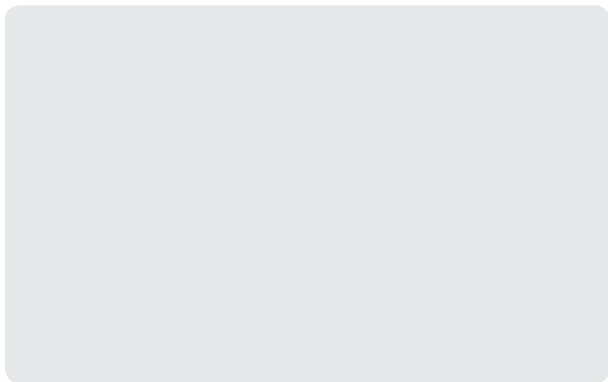
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EN: Vendor of the product



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