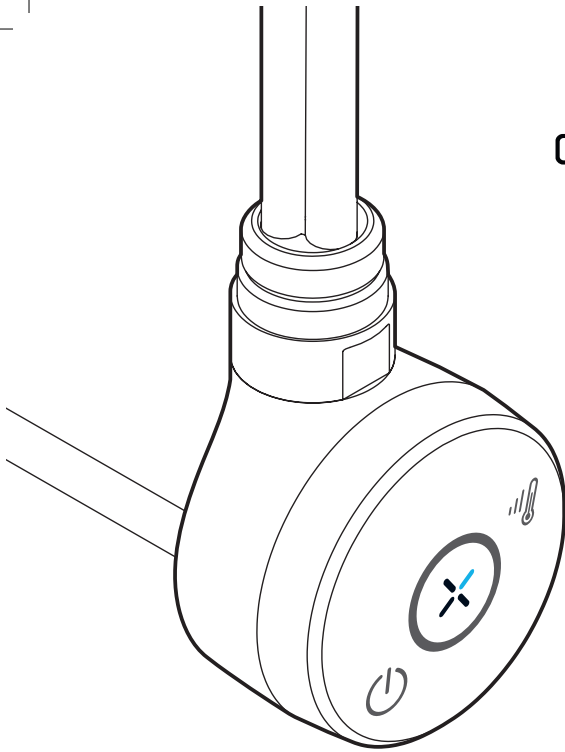


crosswater<sup>✕</sup>



# Installation and User Manual

Electric Dual Fuel Heating Element

**Please read these instructions carefully before starting installation and keep in a safe place for future reference.**

Check the contents of the pack carefully before installation. Responsibility will not be held for any de-fit / re-fit costs where faulty product has been fitted. If any fault is found with materials or workmanship, it must be reported immediately to the manufacturer. Remedial action will be taken, based on information received, on condition that:

1. Full details are supplied to the manufacturer;
2. The product has not been modified or tampered with;
3. The manufacturer is informed of any damage/shortages prior to installation.
4. The product has not been installed, or attempts have been made to install.

We do not accept responsibility for any problems that may occur through incorrect installation. ENSURE the room is well heated and ventilated.

Any modification to the supplied product will negate all product guarantees. Before drilling ensure there are no hidden cables or pipes (water, gas or electrical) behind hanging points. Always wear suitable eye protection when drilling. Ensure the wall surface

is able to take the weight of the complete product. Please use the supplied wall fixing bracket and follow the correct installation method. If the instructions are not followed appropriately there is an increased safety risk to the user. It is important to install light fittings in the correct bathroom zone i.e. the zone referred to in the IP rating of the element. This is not an installation guide and reference should be made to the latest edition of the IET Wiring

Regulations or a qualified electrician member of NICEIC or IET.

All electrical bathroom products should only be fitted by a suitably qualified, Part P registered electrician in accordance with current IEE regulations. Failure to have electrical products installed and certificated by a qualified electrical engineer will invalidate any product guarantee. For full details reference should be made to the latest copy of the IET wiring regulations and all applicable British Standard and European norm specifications.

**WARNING**

THIS PRODUCT MUST ONLY BE INSTALLED IN A BATHROOM VIA A 5 AMP FUSED SPUR.

3 - PIN PLUG/SOCKET CANNOT BE USED.

ONLY USE THE ELECTRIC ELEMENT INDEPENDANTLY OF HEATING THROUGH THE CENTRAL HEATING SYSTEM. **NEVER USE BOTH TOGETHER.**

# User Manual

Our products have been designed and manufactured in such a way to ensure that all quality, functionality and aesthetic requirements are met.

## **Electric radiator**

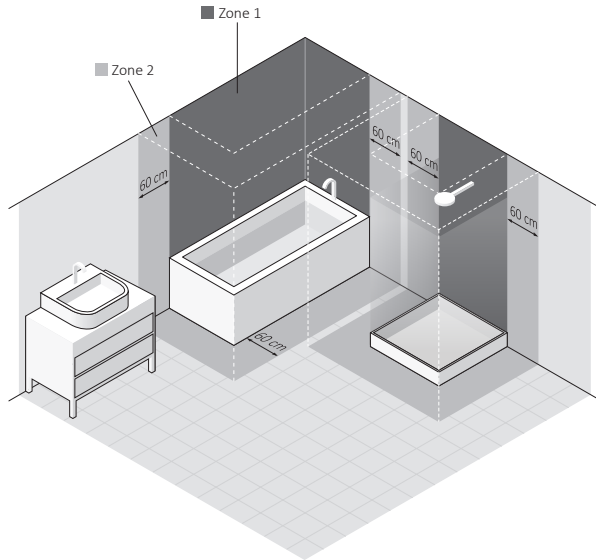
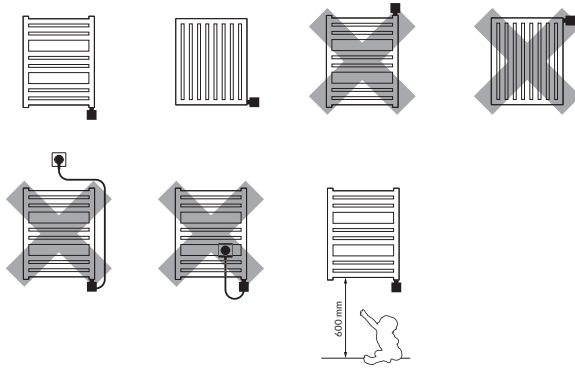
Guide to safe installation and use.

1. Do not install the heater under an electrical socket point.
2. The towel warmer 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 installer.
3. The device is not equipped with an external temperature controller.
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. 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.

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 towel warmer is used as a clothes and towel dryer, ensure that the fabrics drying on it have only been washed in water, fully rinsed of any acidic or alkali 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. Extension leads or electric plug adapters should not be used in order to supply power to the heater.
10. While connecting the radiator to electric installation ensure that the circuit 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 provide an omnipolar cut-off switch with a minimum contact opening of 3 mm for disconnecting the device on all poles.

11. 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.
12. The device is recommended for use solely as described in the manual.
13. Ensure that the heater has been installed on a wall in accordance with its installation manual.
14. Please forward this instruction manual to the end user for future reference.



# Electric Heating Element

## Safety requirements — installation

1. Fitting and connection of the heating element should only be performed by a qualified installer.
2. Only connect the element to a suitably rated electrical mains supply (see the ratings on the element).
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 electrical 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 mains electrical supply.
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. A radiator connected to the central heating system and equipped with an electric heating element must be airvented regularly.
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

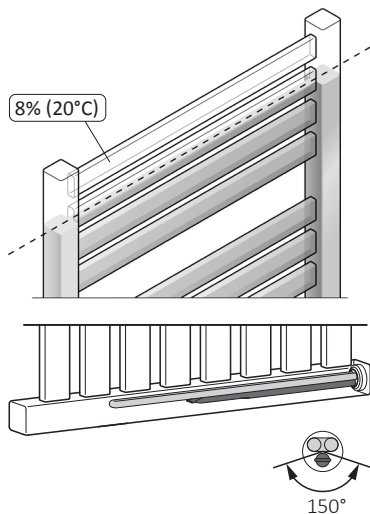
## Technical information

Model markings (power cable type):	PB (Straight cable without plug) *		
Power supply:	230 V / 50 Hz		
Insulation class:	Class I		
Towel rail connection thread:	G 1/2"		
Casing protection class [IP]:	IPx5		
Powers available	<table border="1"><tr><td>400</td><td>600</td></tr></table>	400	600
400	600		
Length of heating element:	<table border="1"><tr><td>335</td><td>365</td></tr></table>	335	365
335	365		

\* Device intended to be connected permanently to the system


# Installation or removal

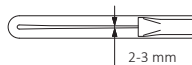
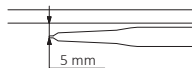
Detailed information demonstrating the different ways of installing or removing a radiator heating element is available from the manufacturer or importer (see footnotes at the end of the manual). Below we list some basic requirements and principles which must be followed to ensure long term, reliable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



When installing the heating element horizontally, the single tube (capillary) where the temperature sensor is located, should be positioned to be as close to the bottom of the radiator as possible.

## 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. Check the distances between the individual heating element tubes and bend if necessary.



6. Do not switch the heating element on if it is not fully immersed in radiator heating medium.
7. 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).
8. When filling the radiator with hot liquid insure that the liquid temperature does not exceed 65° C.
9. 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).
10. Before filling the radiator with heating medium, ensure that the heating element is fitted properly and that it is water tight.
11. In central heating installation radiator must be fitted with the valves enabling disconnection of the radiator from the rest of the system.
12. The temperature of the heating agent in the central heating system must not exceed 82° C!
13. For detailed installation hints — see the last pages of this manual.

## 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.

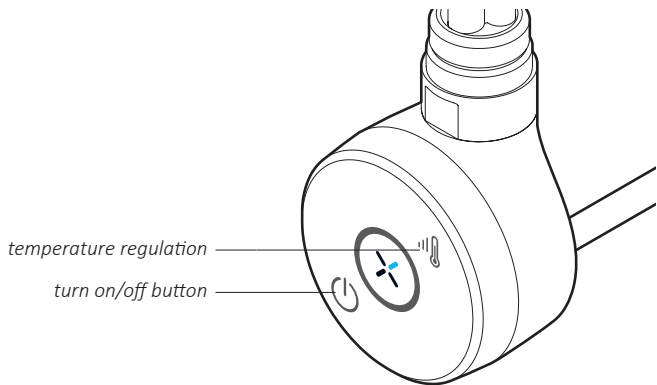
## Product disposal



This product should not be disposed of as general waste but should be brought to the appropriate collection point for 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 any maintenance, always switch off the mains electrical supply.
- 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.



Turning the device on with the  $\odot$  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  $\odot$  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  $\ominus$  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 automatically. 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  $\odot$  button. You can now freely adjust desired temperature level (buttons  $\oplus$  and  $\ominus$ ). 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  $\odot$  button. After 2 hrs heater will switch off automatically.

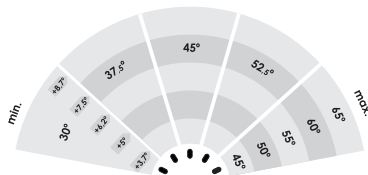
Press  $\odot$  button at any time to interrupt the dryer mode.

## 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

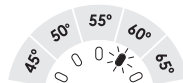
stays unchanged). This allows the user to achieve a maximum temperature which is higher than the standard or to effectively heat a space with the device during lower surrounding temperatures.

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  $\odot$  button. A single diode will start blinking on the display panel. Use  $\oplus$  and  $\ominus$  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 connected to electrical supply in, no diodes are on.	Problem with the power supply connection.	Check the connection of the electrical supply to the element.
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 $\odot$ button.	Damaged electronics.	Disconnect the device completely, wait until the radiator cools down and re-connect it.
If the problem continues please contact your installer or retailer where you purchased the product.		



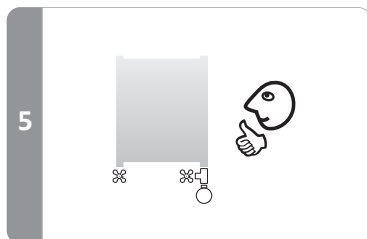
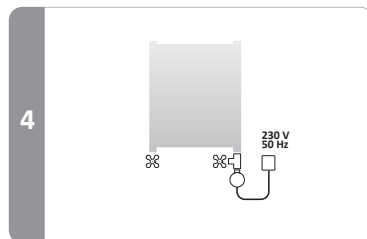
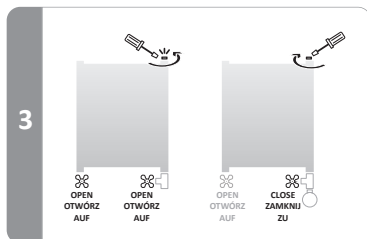
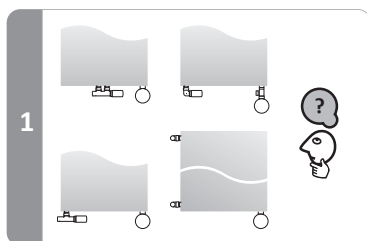
# Warranty terms & conditions

1. The subject of this warranty is an electric heating element with control head. The product name and characteristics are specified on the packaging.
  - unqualified persons tampering with the product,
  - customers after the purchase.
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 and/or damages caused by:
  - 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),
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 distributor.
7. The attached Product Manual is an integral element of the Warranty. Please read it carefully prior to the installation and use of the Product.
8. The Manufacturer is obliged to remove any production fault within 14 working days of receipt of the faulty device at the Manufacturer's premises.
9. Should the repair be impossible, then the manufacturer is obliged to replace the faulty Product with a new, full-valve unit of identical parameters.

## Dual Fuel Radiator

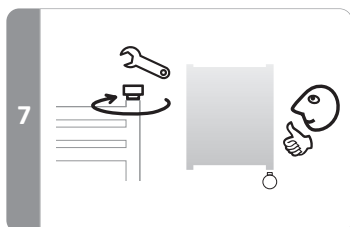
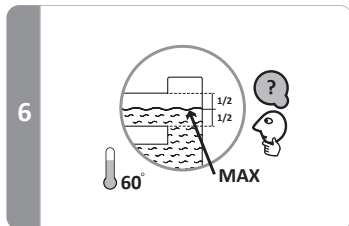
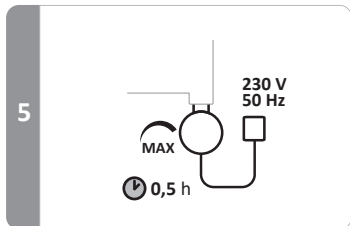
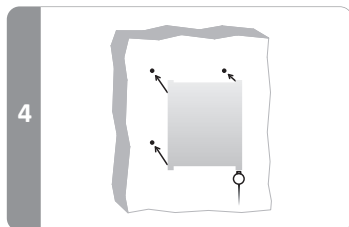
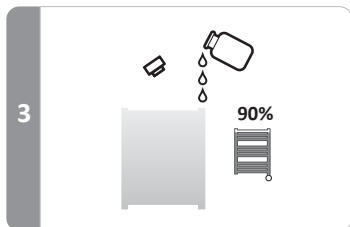
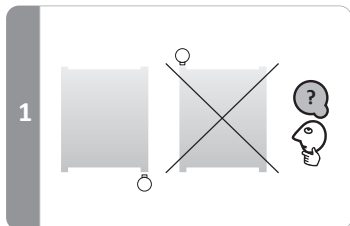
**EN** NEVER OPERATE THE HEATING ELEMENT WITH BOTH VALVES CLOSED.

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



# Electric only Radiator

## Installation



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