

Installation and User manual

**R1 Electric heating element for towel radiators with integrated control
unit**



Model
R1

Sol*Aire
Heating Products Ltd

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Your new adjustable electric heating element

Thank you for deciding to purchase this new controllable electric heating element, model R1 .

Upon receipt of this product, please check it carefully. This leaves our production facility in perfect condition, and is delivered in safe packaging. If you still encounter problems, Please contact us.

Our contact details and relevant information can be found on the back of this installation document and on our website.

Keep the installation and operating instructions and any other documents that you have for later use.

Disposal

Packaging

The packaging serves to protect the product from damage during transportation. Waste packaging should be handled with care.

Miss-use could cause suffocation.

All packaging materials used are environmentally friendly and recyclable. Please dispose of the packaging in an environmentally friendly manner; using appropriate means of disposal. For more help contact the appropriate agencies or council.

Disposing of the appliance



From waste, a lot of valuable raw materials can often be recovered by environmentally friendly disposal.

This device complies with the European Community 2002/96/EC of the WEEE Directive. This Directive lays down the framework for an EU-wide collection and recycling of electrical and electronic equipment.

If your appliance malfunctions: The appliance should be disconnected from a permanent connection by an electrician, then disconnect power cable directly at the device output and remove. Do not let children play with the old appliances.

Scope of delivery

Check immediately on receipt of the unit. The following items must be included:

- Complete electrical heating element with integrated electronic control unit in the ordered colour and with ordered power (nameplate) check.
- Installation and operating instructions.

Safety instructions and warnings

Instructions prior to installation.

Before you begin the installation, setup or operation of the unit, please read these instructions carefully and then proceed. Please also note all signs, notices and technical information. All instructions must be followed in full.

The manufacturer is not liable if you remove notices and/or warnings from the installation and operating instructions, or on the device itself.

Check the device visually for any damage. In the case of uncertainty, seek the advice of a professional. If in doubt, the device must not be connected.


The unit is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, only use if they are supervised by a competent person.

Before connecting the appliance to the power supply check whether the cable is properly fused.

For the required use for the device, see "Specifications" in the installation and operating instruction. Should you be in any doubt whatsoever, please consult a suitably qualified expert.

This product is a Class I unit and as a result it must be earthed. Earth grounding is marked by this



 **Never attempt to disconnect the control unit from the heating element. It is a unit that was factory-sealed. The separation and attempt of separation can lead to the destruction of the whole device and invalidates all claims under warranty or liability.**

Installation

Improper installation can lead to danger or injury to the person doing so

Please contact the manufacturer to ensure that the safety requirements are met.

Under no circumstances should the casing of the R1 element be opened.

Proper use of the R1 thermostatic heating element.

- For indoor use only.
- Only use the device in a suitable towel radiator, for space heating and/or towel drying.
- This element should be mounted vertically, in the bottom of the radiator only.
- It is imperative that you have the correct fluid level in the radiator before this element is installed.
- If using an aqueous solution inside the rail a suitable expansion gap should be left.
- Do not allow liquid or larger hard particles to enter the inside of the control unit.
- Clean with mild detergents.
- The appliance is not a toy for children.



It is very important to understand and adhere to the above guidelines.

Be sure to note the level of liquid in the radiator and follow the instructions of the manufacturer of the radiator. If not specified, consult an appropriate professional.

Installation of the R1 element into the radiator (towel dryer)



The appliance must not be connected to the electricity grid.

After you have read the previous chapter and note the information contained, screw the heating element into your suitable radiator or towel warmer. Be sure to work to the instructions from the manufacturer of towel radiator, and its suitability for use of this heating element. The heater must not be connected during installation to the power supply. The connection must be made only after the installation of the element into the radiator.



1

Pure electric heating

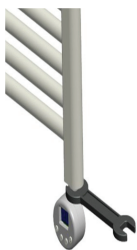


2

Mixed (dual fuel) heating system

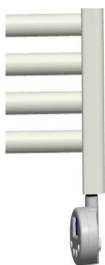
The heating element can be used as a stand alone electric heater (1) that has no involvement in the central heating system, as well as a heating element (2) which is integrated in the central heating system. In the latter case this heating element is installed through a dual fuel Tee piece into the radiator.

Please ensure that all joints are dry and leak tested before final commissioning a / b).



3a

Tighten with 24mm wrench



3b

Until in the right position.

Never turn the element by hand always use the correct tools.

If you are unsure about the type and manner of installation or on the suitability of the radiator for the use of the heating element, please consult a qualified person for advice.

All electrical work should be undertaken by fully qualified tradesmen.

Replacement of the heating element in an existing radiator

Please follow the steps below if you are replacing or retro fitting an existing towel radiator.

Sealed electric radiator.

- a)** Disconnect the power cable from the power supply, disconnect the radiator from its bracket and remove it carefully from the wall. Turn the radiator upside down to unscrew an existing element.
- b)** Screw the new heating element (1) into this hole and tighten it with the wrench 24mm until the controller is in the correct position, again making sure that all joints are secure and water tight.
- c)** Replace the radiator and secure.

2. Dual Fuel Kits.

- a)** Disconnect the power cable from the power supply, if any. Close the inlet and outlet valve to the radiator and empty it.
- b)** Unscrew the old heating element, if available from the tee, and screw in the new heating element (1) into this hole and tighten it with a 24mm spanner until the controller is in the correct position and the thread tight, as in the previous chapter.
- c)** If no electric heating element was present (2), disconnect the connection to the central heating circuit, screw a tee into the heater and connect the tee back to the central heating circuit. In the vertical threaded screw of the tee insert the new heater and tighten with a 24mm spanner until the controller is in the correct position, as described in the previous chapter.

Commissioning.

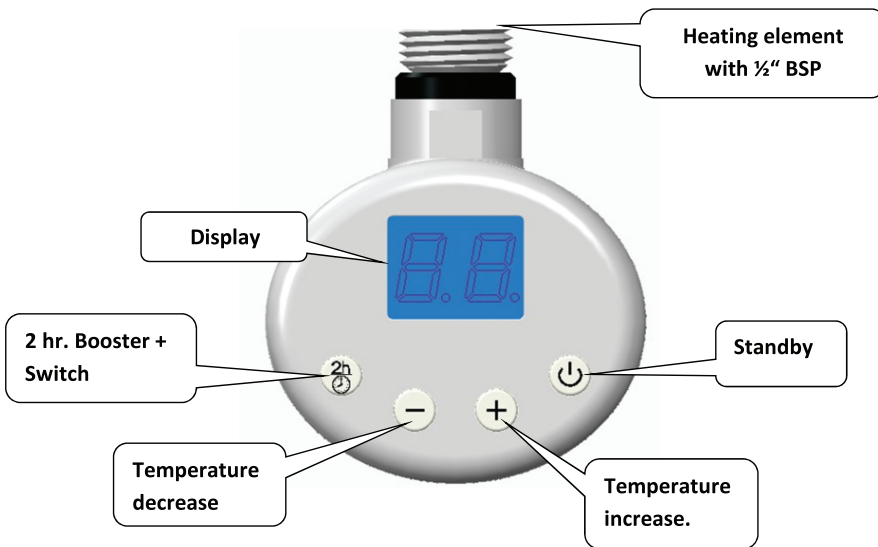
Having established that the wall connection is sufficient, the electric connection to the mains can be made. This is done by hardwiring the element into a suitable wall junction box in accordance with all current building regulations by a qualified electrician.

When using this heating element inside a bathroom environment please ensure the heater meets the correct bathroom zone application.

Once connected and water tight, please follow the next instructions for commissioning.

Functional parts R1

- Heater controller



Easy to use electric heating element with integrated control unit for controlling your bathroom heater or towel warmer.

Inside the heating element is an NTC (negative temperature coefficient) sensor. This thermistor will send information to the controller to be converted into temperature values. It will show the temperature of the fluid in the radiator, which is approximately equivalent to the surface temperature. This surface temperature is important for the function of the towel warmer, as it determines the room temperature.

The temperature selection is made easy by the + / - buttons on the control unit in 5 ° C increments between 30 ° C and 70 ° C.

The operation of this small and visually appealing controller is now easy for everyone without any special knowledge or skills.

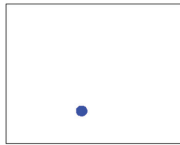
The controller has four functional modes

- A. (Standby Mode) (Frost protection mode)**
- B. (Work Mode)**
- C. (Booster Mode)**
- D. (Timer Mode)**

A. (Standby Mode)

A. 1 Once the thermostatic R1 heater is powered up, the unit will immediately go into standby mode (standby).

The display will show the wait state (standby) through a blue dot flashing on the screen
Standby mode



Additional function "antifreeze" in the waiting state (standby mode)

When the heater is in stand-by mode it will automatically default to a frost protection state. This means the unit will turn on if the fluid temperature falls below 6°C. It will then raise the fluid temperature to 8°C and then cycle to maintain a freeze protection status.

B. (Work Mode)

B. 1 Once the unit is powered up and in stand-by mode you can enter the work mode by depressing the stand-by switch.

B. 2 The first indicated set temperature for the heating surface is always 40 ° C. You can do this by pressing the + or - keys to increase or decrease. The range is 5 ° C increments from 30 ° C to 70 ° C.



B. 3 If the entered target value is higher than the currently existing actual value, then the heater will turn on and a blue dot in the lower right corner of the display starts flashing. The point disappears as soon as the selected target temperature is reached.

B. 4 The R1 heater will commence a cycle and switch on/off when the actual temperature is 1°C above or below the actual set temperature.



B. 5 If you press during operation (work mode) the standby button (see page 8 functions), the unit returns to the wait state (standby mode) and remains there until a new command is carried out.

Reference

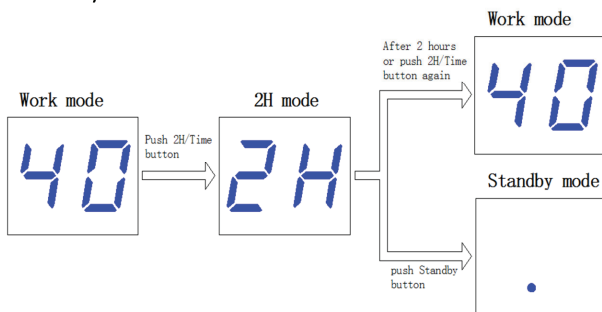
For economic and ecological reasons we would suggest a good place to commence would be a set-point temperature setting of 50°C, this is known as the “ECO” setting.

C. 2-Std. (2 Hour Boost Mode)

C. 1. If you need a short boost of maximum performance, e.g. to dry towels, then press the 2h-booster mode on the control unit (see Features page 8). Regardless of which control mode you are in, the element will stay on for the set time of 2 hours at maximum performance. After the 2 hour period the heater will revert back to the previously chosen mode and temperature.

C. 2 If you would like to end the 2 hour boost control, press the 2h-booster mode. The device will also switch back to the controller mode that was previously set.

C. 3. If the 2 hour boost control is to end prematurely, and you do not want to go back to the operating state that was set to before, you can simply switch it back to stand-by mode by depressing the stand-by switch



D. Time Mode (Time Mode P1)

This mode will turn the heater on daily at the same time every day and heat for 2 hours at maximum power.

D. 1. Press the 2-hour booster mode (see features page 8) for about 4 seconds and "P1" appears on the display. The controller keeps track of the switch and heats for 2 hours at maximum power. From now on, the controller switches the heating daily 30 minutes before this time was first stored for 2 hours at maximum power at.

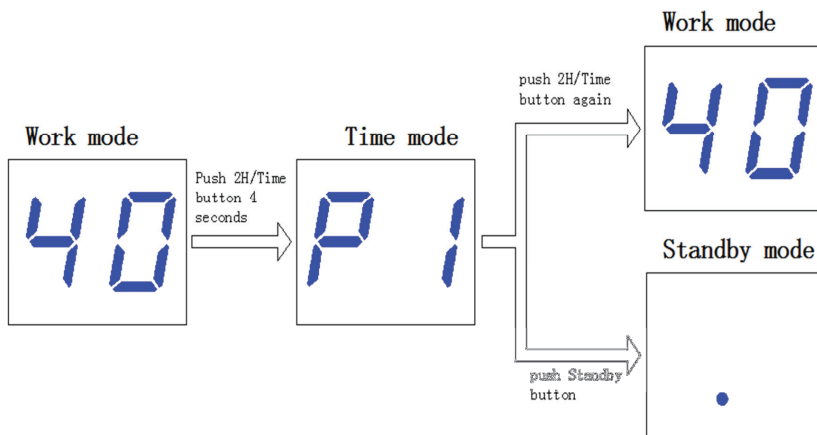
D. 2. After 2 hours, the unit will return to the controller mode that was set before, so operating state or wait state.

D. 3. If you want to end the 2 hours boost prematurely, simply press the 2 hour booster button and return to either the operating state or the stand-by function.

D. 4. The daily cycle is executed as long as it is not cancelled. An interruption of the daily cycle will caused a premature manual termination of the 2-hour process, as well as the switching in operation or standby state. A new cycle can be started any time.

Note / Example

The 2hr boost button has been pressed on Monday at 8:00am for 4 seconds. The appliance heats with a maximum capacity from 8:00am to 10:00am. Every day after this it will start



Protective shutdown of the control device (Error)

Temperatures measured above 120 ° C or below 25 ° C by the R1 thermostat will switch the unit into a default mode "Er"



Technical Data	
Voltage:	230V / 50 Hz
Max Power Output:	300W,600W,900W
Insulation Class:	I
Protection (IP Rating):	IP X4
Temperature Setting:	30°C – 70°C
Thread Size :	G 1/2"
Dimensions:	60 x 70 x 40 mm

Heater 12 mm Ø	Wattage (W)	Element Length (mm)
	100	350
	150	350
	200	350
	300	370
	400	430
	500	450
	600	560
	700	630
	800	700
	900	760
	1.000	830
Head Colour:		White or Chrome
Cable Colour:		White
Cable End:		Stripped

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The logo features the company name 'Sol*Aire' in a large, bold, black serif font. The asterisk is stylized with eight points. Below the main name, 'Heating Products Ltd' is written in a smaller, black serif font. The entire text is set against a background of a yellow-to-red gradient oval.

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