

Technical Memorandum

Issued by: Nick Wells

Date: 15th September 2022

Reference TM02- version 1

PROJECT: AMBASSADORS THEATRE MEP REFURBISHMENT WORKS

TITLE: CONVERSION OF CAST IRON RADIATORS TO ELECTRIC HEATING

The existing cast iron radiators will be removed from site and modified in a workshop.

The radiators will be flushed and chemically cleaned.

Once the electric element has been installed into the bottom connection (left or right to suit), the radiator will be 95% filled with a water/glycol mix (10% by volume) which also contains a corrosion inhibitor. The 5% of volume will be air to allow for expansion. A safety valve and vent will be fitted to the top of the radiator.

Ref	Location	Overall Size (HxL)	Electrical Duty
R1	Stalls Stage Right	36" x 36"	2kW
R2	Stalls Stage Right	36" x 36"	2kW
R3	Circle Stage Right	18" x 36"	1.2kW
R4	Circle Stage Left	24" x 21 "	1.2kW
R5	Stage Right (Stage)	36" x 36"	2kW
R18	Stalls Rear Lobby	36" x 36"	2kW

Electric Cast Iron Radiators

Electric heating elements are available in 1.2 kW, 1.5kW and 2kW options, in a range of finishes including anthracite, satin gold, white, satin steel and chrome.



Electrical Elements For Cast Iron Radiators

These electric elements can be fitted to traditional reclaimed radiators or new reproduction radiators to convert the radiators to electric heating.



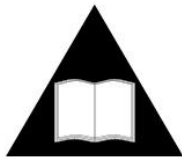
The electric element is fitted with a thermostat which will control the temperature of the room, and it also has a frost setting. To further enhance this, you can also incorporate a timer.

How To Fit An Electric Element On Your Radiator

Please see the manufactures instructions below of how to fit an electrical element to a cast iron radiator. The manufacturer's fitting instructions are also included with the heating element.

We recommend that a safety valve is fitted when installing the heating element.

HGT electric heater with capillary temperature regulator



Please read the instructions before use.

HEATING02

The heater complies with EC standards



IP54

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SAFETY

1. The heater should be installed by a qualified person.
2. Bathroom radiators fitted with electric heaters should be fixed not less than 60 cm from a bath, shower or wash basin, and never above a bath.
3. For the heater permanently connected (hard wire) there must be applied a cut-off device from the mains. Such a device must disconnect the heater from the supply mains in 2 poles, with contact separation of at least 3 mm.
4. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental

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capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

5. Children shall not play with the appliance.
6. Cleaning and user maintenance shall not be made by children without supervision.

The heater MUST BE DISCONNECTED before cleaning the casing. AVOID SOAKING THE CASING. One radiator valve must always be open when a heater is in use (liquid thermal expansion).

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HGT electric heaters are designed for use in water, water/glycol filled column and aluminium radiators
For aluminium radiators please use a water content (instead of radiator's output)

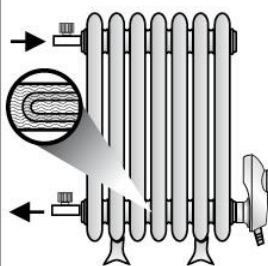
Water content (l)		Radiator output (W)		Recommended HGT Heater		Flange	
min.	max.	min.	max.	HGT heater output (W)	Length of heating element (mm)		
1.5	3.0	350	350	300	340	R 1/2"	
3.0	4.5	500	550	600	390	R 1/2"	
4.5	7.5	700	850	900	440	R 1/2"	
7.5	8.5	1050	1050	1200	470	R 1/2"	
8.5	10.0	1300	1300	1500	520	R 3/4"	
10.0	18.0	1800	1800	2000	570	R 3/4"	

The radiator pressure and information to use in this table should be found in the paper attached to the radiator product

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Installation and structure

I radiator in CH system



I radiator in CH system

Open valves and vent the radiator. Next close inlet valve (thermostatic controller).
Caution! Only one valve must be closed.

II electric radiator

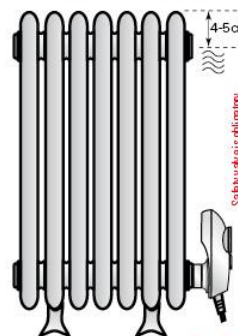
It is recommended to fill the radiator only up to 95% of its capacity (leave 4-5cm of air in the manifold), taking into account thermal expansion of water. Check the capacity in the instruction manual of the radiator manufacturer.

Check that the radiator is watertight after filling.

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II electric radiator

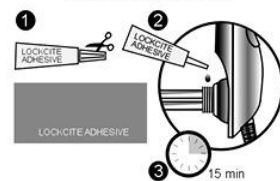


Safety valve is obligatory

DO NOT connect to the mains

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Because of the shape of HGT heater casing, with some aluminium and brass radiators it may be necessary to use a spacer bush to permit the heater to be turned fully into position.



Before inserting the HGT heater into the radiator, a small amount of Loctite Adhesive (included) should be smeared over half of the circumference of the thread. **DO NOT put Loctite on the conical gasket, AVOID CONTACT WITH THE SKIN.**

The Loctite adhesive bonds within 15 min.

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Installation and structure

Do not remove silicone spacer from heating element

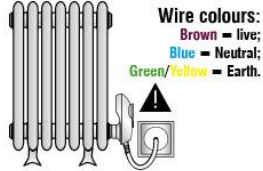


After placing the adhesive on the thread the HGT heater should be firmly screwed into the radiator by hand. No special tools are required. The special conical gasket fitted to the 1/2" or 3/4" connection of the heater enables the heater to be screwed into the radiator until the control box is vertical.

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Electrical installation in a bathroom should be entrusted to a qualified electrician for hard wiring in compliance with UK electrical regulations.

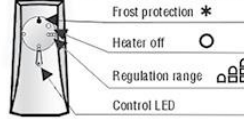
Radiators for use in living rooms may be plugged into a standard electrical socket using a standard UK 13 amp plug.



Connect the heater to the mains 230V.

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The HGT heater is switched on by turning the control knob clockwise, and the LED on the casing will light up. The star shaped position on the control knob is for frost protection (approx. 10°C). The range of temperature regulation is from 20°C to 65°C (±5°C). The heater is turned off by turning the control knob as far as possible anticlockwise (Fig. 1)



Maintenance:
The HGT heater **MUST BE DISCONNECTED** before cleaning the casing. The casing may be cleaned using a soft cleaning agent on a damp cloth.
AVOID SOAKING THE CASING.
The heating element must be fully immersed. The radiator should be fully purged of air

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GUARANTEE TERMS:

Guarantee is granted by manufacturer for 24 months period starting from date of sale, but no longer than 36 months from date of the heater manufacture. Defects revealed within this period, resulting from a fault of manufacturer will be repaired free of charge or the item replaced with new, equivalent one. Term of complaints' investigation up to 14 (fourteen) days from date of submission to the manufacturer.
Guarantee does not cover:
1. Using of product in a manner incompliant with attached instructions.
2. Any visible damage to the heating element or controller due to improper use.
Damaging of manufacturer's seals makes the guarantee null and void.

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Guarantee conditions and card

heatpol
Mników 322, 32-084 Morawica
tel.12.423.6065, 12.656.4491
www.heatpol.com

GUARANTEE CARD

Electric heater with electronic temperature controller, type: HGT

Serial No.:

Date of sale:

Stamp of retail outlet, signature of seller

Caution:
The guarantee card should be legibly filled in retail outlet. Any corrections on the guarantee card will invalidate the guarantee. Guarantee card valid only with proof of purchase.

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In the event that Heatpol are unable to repair or replace this product we reserve the right to refund the purchase price as an alternative

Notes:

1. The condition of proper, long-term heater operation is complete immersion of heating element in water.
2. It is recommended to entrust the heater installation and first starting to **qualified technician**.
3. In case the radiator installed in CH system is fitted with two valves, it must not be closed both at supply and return side (thermal expansion of water).
4. Disconnect the power supply in case malfunction is found.
5. Electric power cable is not replaceable. Z type connection. If the electric cable is damaged the heater must be returned to the manufacturer for repair.
6. If heater doesn't work at any position of a knob please return it to a sale point.

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Caution:

To avoid the risk of fire or electric shock the heater casing should be protected from water spray or flooding.

This appliance is not intended for use by persons (including children) of limited physical, sensory or mental abilities, or persons inexperienced or not familiar with the appliance, unless supervised or instructed on the appliance use by persons responsible for their safety. Particular attention should be paid to children, to preclude playing with the appliance by them.

exclamation mark on triangular field signals information important for the user

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lightning mark ended with arrow on triangular field warns about dangerous voltage inside the appliance

CAUTION electric shock hazard

Note:
in order to reduce electric shock hazard, do not remove the casing (nor its rear cover).
There are no user-serviceable parts inside the appliance; the product should be returned to manufacturer to have it repaired, via product purchase point.

REFER TO LABELS ON ENCLOSURE

Do not throw the used appliance in the waste bin. Take it to a recycling facility.

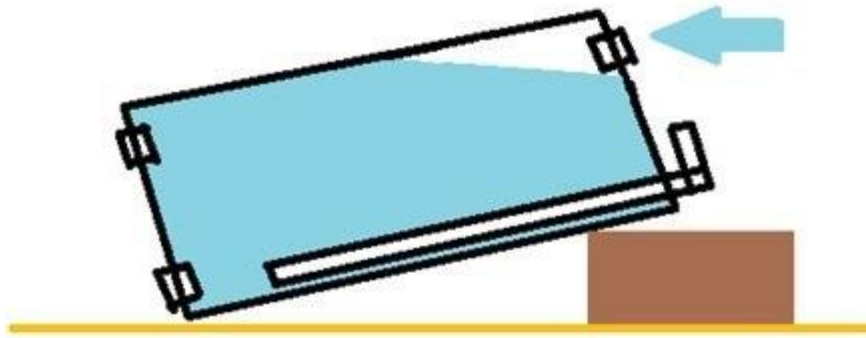
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The radiator must be filled as below. Please note, this process must be completed by a professional.

- Begin by unscrewing the two end caps at the top of the radiator – this will reveal a large hole at either end of the radiator.
- Fill the radiator up with the water and glycol mix. Note, the heating element must be fully submerged.
- Start filling slowly from the one end so there are no air locks in the radiator.



- When the radiator is filled, screw the radiator end cap back on the left-hand side and raise the radiator at an angle. Carry on filling the radiator slowly to make sure there are no airlocks.
- You must leave a 5% gap at the top of the radiator to allow for expansion.



- Screw the radiator bush back on the right-hand side.



The radiator is now ready for connection to your electrical supply.