Electric radiators fly the flag for energy efficient heating

Richard Brown, Managing Director of Electrorad, considers recent claims that infrared heating uses 50% less energy than most other forms of heating and argues the case for electric radiators as an all round superior heating solution.

There's been much ado recently about infrared heating being the latest energy-efficient source of heating set to take the electric heating market by storm. The truth is that ALL electric heating products have the same efficiency – 100% conversion of electrical energy input to heat output and they ALL, infrared included, produce the same amount of heat for the same money.

Infrared heating is designed to heat the people in the room directly rather than heat the air in the room like traditional heating systems. The manufacturers or suppliers claim this means a lower wattage heater can be used. This may be true, but the heater has to be on all the time at full power to keep the room occupant warm.

For example, a 1.5kw electric radiator might be used to heat a living room and an alternative might be a 0.75kw infrared heater. The infrared manufacturers would claim this represents a 50% energy saving, but that is not the case. It cannot be disputed that the 1.5kw radiator will produce twice the amount of heat as the infrared heater but the radiator is producing both radiant and convection heat, whist the infrared heater is only ever producing radiant heat.

A radiator will also be thermostatically controlled and will switch off when the ambient room temperature reaches the thermostat set point. The infrared heater has to remain on the whole time if the room occupant wants to be warm. It is quite typical for a thermostatically controlled electric radiator to be drawing power for around 30-50% of the time in order for a room temperature to be maintained.

The Digiline electric radiator from Electrorad looks and heats like a regular central heating radiator but with some clever electronics to ensure ultimate control and minimum energy usage.

The Aeroflow range of electric radiators from Electrorad come with a 30-year warranty and have three thermostatic control options.

This means the 1.5kw radiator would use up to 750 watts per hour (depending on the room heat loss), whilst keeping the room and the occupant(s) warm, and the infrared heater will have to remain on all the time, using 750 watts per hour to just keep the occupant warm. Clearly this shows that there is no energy saving from using infrared heaters over electric radiators.

The mechanisms by which thermal energy is transported by an electric radiator are convection and radiation; convection warms the air and circulates it around the room, radiation heats people and objects directly. Alternatively, infrared heaters transfer thermal energy via electromagnetic waves (in straight lines). Only objects are warmed as opposed to entire areas.

Infrared heating relies totally on radiant heat to heat the surroundings and infrared waves travel through space and are absorbed by people and objects in their path. Infrared is not absorbed by the air through which it travels. It's true that householders feel warm when the infraredheat is turned on, but once it is turned off, they will almost immediately feel cold as the air temperature remains cold.

Electric radiators warm the air from beneath the heater and, by using natural convection currents, circulate the warmed air throughout the room. They also produce radiant heat to warm the occupant directly. In all models, the warmed air circulates into the room, raising the ambient temperature. When the heater's thermostat setting has been reached, the heating element is shut off. When the room air cools again, the thermostat will trigger the unit to turn on.

In my view, infrared heaters simply cannot compete with some of today's sophisticated electric radiators which, as well as being safe, reliable and easy to install, present a sensible and economical alternative to gas and oil. Not just that, but visually, they are a far cry from the storage heaters of yesteryear.

Today's electric radiators offer a high level of comfort with increasingly sophisticated controls that enable all round warmth and comfort, tailored to suit individual preference both by unit and by room, and by controlling both temperature and time of use. This facilitates the ultimate in control of energy usage and efficiency,

Competition is healthy and it's good to welcome new forms of heating on board. However, we need to continue to raise our game by educating the home-owner.

www.electrorad.co.uk

Robust retrofit LED lighting range offers130 lm/W

Crescent Lighting, the long-established UK specialist lighting manufacturer, sets the standard for quality and price performance with its industry leading range of LED tubes for fluorescent retrofit applications.

Crescent Energy Focus LED retrofit tubes are ideally suited for use in a broad spectrum of commercial lighting, re-lamping and energy performance applications including: warehouses, factories, cold rooms, education, healthcare, office and municipal facilities, car parks, stations and depots.

Crescent Energy Focus - features and benefits:

- LED retrofits for T8 and T12 fluorescents
- Industry leading 130 lm/W efficacy
- Robust design / military pedigree
- Compatible with existing fixtures / control systems
- 600, 1200 and 1500mm sizes
- 50,000 hours rated lamp life
- Major energy savings
- Fast paybacks
- Rotating and locking end caps
- Industry certified including CE, ROHS
- 5 year warranty

"Our Energy Focus LED tubes offer users and the energy services contractor market affordable access to highly robust and energy efficient retrofit solutions which combine industry leading light quality with significant savings on maintenance and energy costs," said Michael Morrison, Managing Director, Crescent Lighting.

▶ **www.crescent.co.uk**

Crompton Lamps Launch 5W Classic GLS LED

Crompton Lamps has launched a unique 5W LED lamp that has the appearance of the popular GLS for those who have mourned the loss of this traditional light source.

Since their launch onto the market, energy efficient lamps have come in a myriad of shapes and sizes, including tube, candle, spiral, globe and many other options but for some applications it is still the GLS shape that is preferred.

Part of Crompton's Manor Range, the 5W LED GLS offers the best of both worlds, combining all the benefits of LED's in a form everyone is accustomed to.

With its integrated SMD patented technology, the range includes clear and satin finish with excellent lumen outputs and instant full light start. With a life expectancy of 20,000 hours, the LEDs offer excellent illumination in warm white (3000K) with no compromise in performance.

Following vigorous testing in Crompton's own research facilities the 5W GLS when compared to a 25W incandescent lamp, offers equal or better lumen brightness, longer life and circa 88% in energy savings. All of the specifications claimed on Crompton's products are matched by genuine product performance.

The 5W LED GLS lamp is perfect for use in both decorative and everyday applications.

▶ **www.cromptonlamps.com**

Wholesalers to benefit from UK's first approval scheme for energy management installers

A unique scheme that aims to professionalise and upskill the energy management installation sector is recruiting electrical wholesalers to become Preferred Stockists.

Newly launched E-PRO Approved is the UK's first accreditation initiative for electrical contractors working within the energy management sector. The scheme, launched by Marshall-Tufflex, also encompasses the supply chain, with Preferred Stockists currently being appointed UK-wide to partner with E-PRO Approved installers, allowing both to take advantage of improved terms and a close relationship with Marshall-Tufflex.

To support Preferred Stockists Marshall-Tufflex is rolling out a programme of in-house training for electrical wholesaler branch staff plus in-branch promotional activity including counter dispensers for the manufacturer's new 'Marshall-Tufflex Guide to Energy Management'.

This 76-page guide is aimed at explaining technologies such as voltage optimisation, power factor correction, sub-metering and boiler management. Topics covered include transformers explained, CE marking, understanding load dynamics, voltage dependent/independent devices, useful/reactive power, dry cycling and maintenance.

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▶ **www.eproapproved.co.uk**

'Aeroflow' radiators offer reliability guaranteed

For contractors and installers looking for a genuine fit-and-forget electric heating solution, Aeroflow electric radiators from Electrorad offer guaranteed reliability, with a 30-year warranty and a host of advanced features.

Comprising six models in a variety of sizes, the Aeroflow range boasts impressive heat efficiencies courtesy of integral fireclay heat plates that help distribute radiant heat in the same way as gas central heating radiators. This means no fluids and no pipes, no maintenance and easy installation. All models also provide a mix of radiant and convected heat.

Aeroflow offers three thermostatic control options. A highly accurate built-in digital electronic room thermostat comes as standard with 24-hour/7 day programming, and this may also be operated by RF receiver. Alternatively, an electronic analogue thermostat is available – a popular choice with the elderly. To ensure the accuracy of the thermostat, the room ambient air temperature is sensed underneath the radiator where the room is at its coldest.

The RF receiver control is operated by remote control that can operate multiple radiators, all from one single point. Multiple zones may also be set up with the home to control separate floors or areas.

Aeroflow radiators are slimline and modern, providing the perfect compliment to any room.

▶ **www.electrorad.co.uk**