

## **Questions from Industrial Users**

### **What are the Advantages of Thermoreactor Ovens Over, Electric Infra-Red Ovens?**

Thermoreactor Infra Red rays are produced by the catalytic oxygenation of gas. This catalytic combustion is continuously active and produces infra red in a wide spectrum unequalled with any kind of electric Infra red. This large spectrum suits totally the absorption spectrum of paints.

This process is common in plastic painting where high solids are used particularly with the high quality tier two automotive suppliers, results are higher speed drying, reduced flash off and even full curing.

Circulated air produces an even dry coat in a reduced oven area compared to electric where longer more precise distance from lamps is critical

Electric Infra Red heaters produce infra red in a narrow spectrum due to the equal temperature of the surface.

This wide spectrum is the most efficient method to transfer the thermal energy into the paint. This means in practise that the curing or drying time using a gas system over an electric system will be much reduced ensuring greater efficiency and reducing running costs.

With a thermoreactor the drying level of the paint surface is reached far more quickly than by other Infra Red systems minimising the risk of airborne contamination.

Unlike other Infra red systems the principle of Thermoreactors produces heated convection air as an added benefit to the Infra Red this is due to the air being introduced along with the gas in the catalytic action. This air is heated over the surface of the thermoreactors and produces additional hot air within the oven. This hot air is generated with no requirement for additional burners and is a bi product of the process.

The Thermoreactor process is the safest form of infra red. There is no flame and hot surface are not a risk and cannot cause a fire. All solvent is destroyed by catalytic oxidisation at the surface of the thermoreactor without flame and any risk.

Other Infra Red systems have hot surfaces which can cause fires in the case of excess solvent concentration.

With electric Infra Red it is necessary to have a large electric control panel with a greater risk of faults and requiring a large power supply.

Gas works out is much cheaper thermally per kW than electricity

There is no maintenance for the Thermoreactors

The overall design of the oven is much safer with Thermoreactor Catalytic Panels, the panels are very robust and damage resistant.

In this design of oven offered there are two levels of Thermoreactors, in the vertical plane the gas can be regulated between the upper and the lower level. So it is simple to maintain and adjust the temperatures to suit the components at the top and bottom of the jigs.

Matherm Sunkiss in France produces both gas and electric infra red. Sunkiss sells and installs mainly Gas Infra Red, which is the preferred technical choice to dry paint on the most industrial parts.

Electric is the answer when parts are flat always equidistant from lamps and paint thickness is even on the parts.

High level of re circulated air volumes take the IR Catalytic waves into recess and area no covered by electric waves.

For any further information regarding our Thermoreactor ovens email us [Info@unitech.uk.com](mailto:Info@unitech.uk.com) or phone us on 01543 685565