Maywick Radiant Ovens

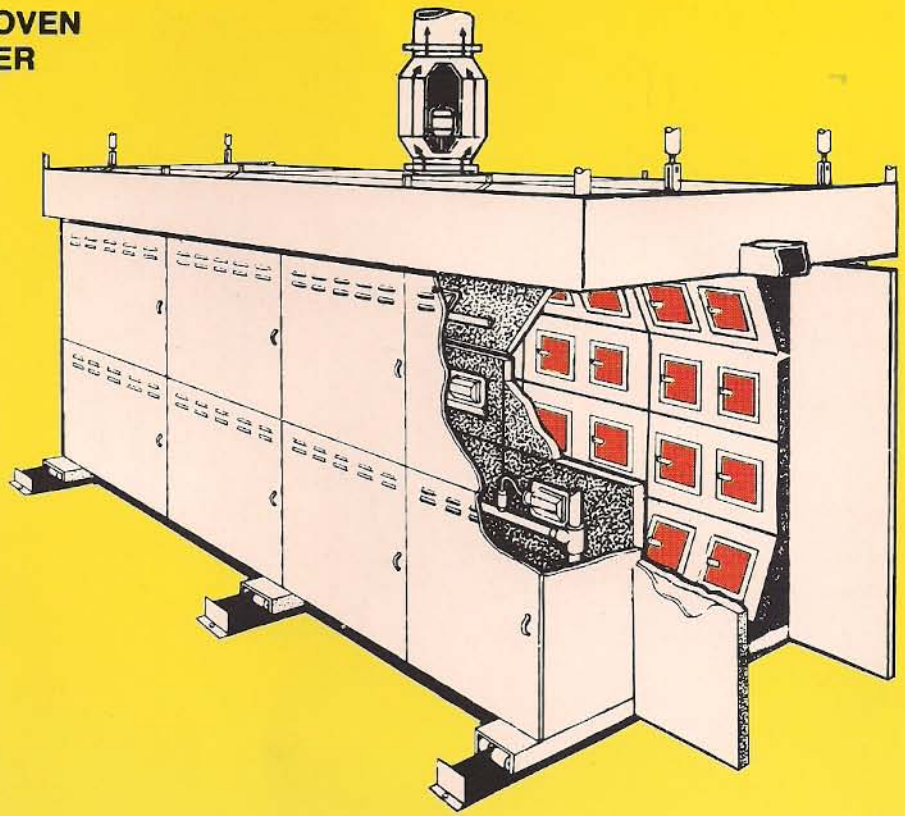
Maywick

SUITABILITY

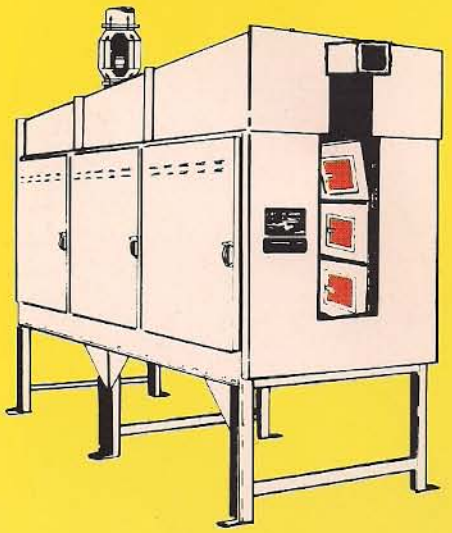
Since Maywick pioneered the use of high temperature radiant ovens in the early 1960s, the finishing industry has developed confidence in the ability of such ovens to cope with the temperature and curing time requirements of standard stoving finishes, powder coatings and heat-transformable polymers. No longer do critical curing criteria demand the use of relatively inefficient convection and dull-emitter ovens. The Maywick advantages of faster curing and reduced floorspace utilisation are coupled with lower capital outlay and competitive operating costs.

The universal suitability of Maywick high temperature radiant ovens in evident among their users – numerous contract trade finishers with their diversity of products and finishes; many small and medium size fabricators; and some of the largest national and international manufacturers.

STANDARD OVEN
3, 4, OR 5 TIER

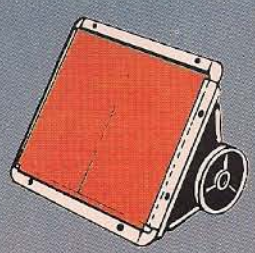


RAYETTE OVEN



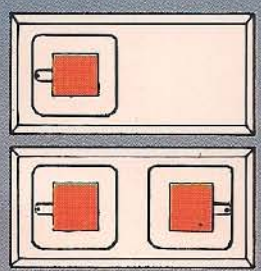
HIGH INTENSITY RADIANT BURNERS

Radiant burners comprise a 9.6mm (⅜ inch) thick low thermal mass ceramic plaque in a stainless steel housing, fitted with gas injector and air entrainment venturi. The air-gas mixture is ignited on the ceramic face, providing a surface temperature of 850°C. Heat input 12,500 Btu/h (3.6 kW). Suitable for natural gas, propane, butane or any clean gaseous fuel.



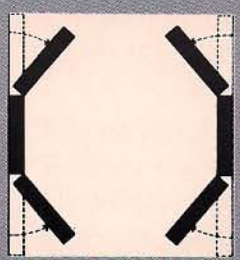
SINGLE OR DOUBLE BURNER PANELS

Each 0.9lm (36 inches) long oven panel houses one or two burners, depending upon application requirements. Faced with polished stainless steel to maximise heat reflection, each panel is lined with insulation material to minimise heat loss by conduction.



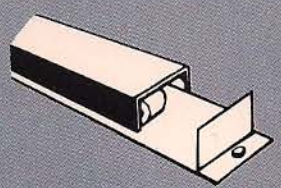
PANEL ANGLE ADJUSTMENT

Top and bottom tiers of panels are hinged, enabling them to be adjusted simply for optimum concentration of heat onto the workpieces.



OVEN WIDTH ADJUSTMENT

Oven walls are roller-mounted (except Rayette), facilitating adjustment of the internal dimensions to suit size and configuration of workpieces.



Radiant Ovens

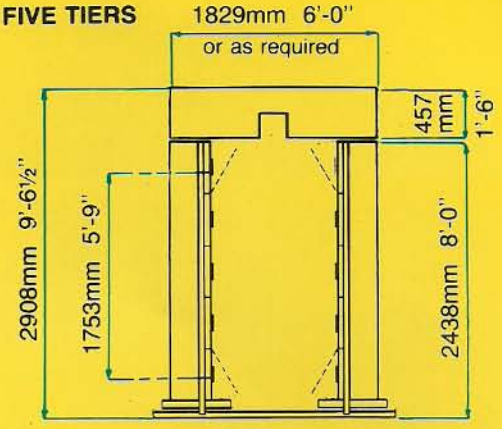
VERSATILITY

Versatility has always been a feature of Maywick radiant ovens – derived from the two opposing walls being roller–mounted to accommodate different size products; top and bottom tiers of burner panels being adjustable for angle; and burners being individually controlled on/off. Variable speed conveyors augment the oven's versatility.
Modular design enables each oven to be 'custom built' from standard components, with consequent economies in manufacture. It also permits relatively easy enlargement of existing ovens by adding further sections to the length.

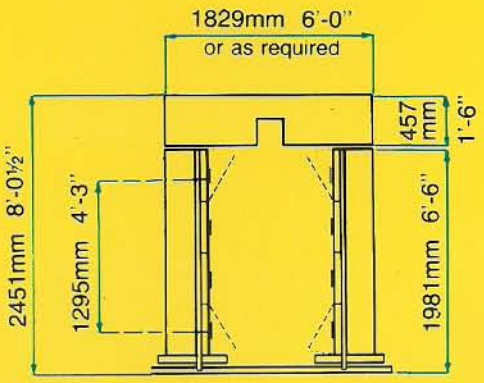
Maywick's own installation and maintenance department provides an excellent nationwide coverage, available to carry out periodic inspection and servicing to ensure that the equipment is operating at peak efficiency.

STANDARD OVEN

FIVE TIERS

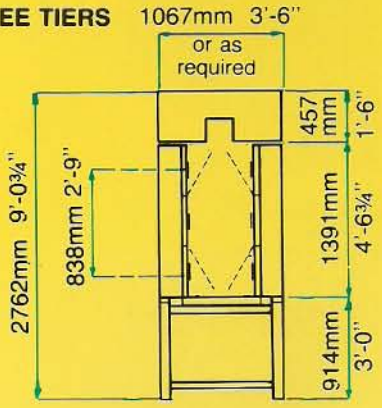


FOUR TIERS

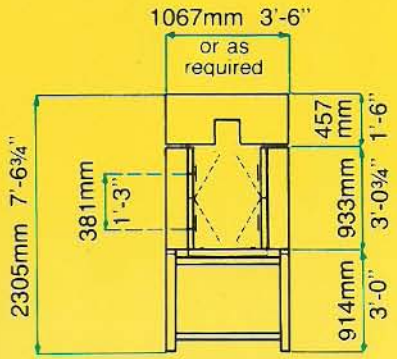


RAYETTE OVEN

THREE TIERS

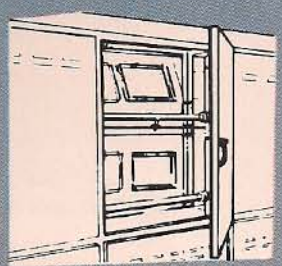


TWO TIERS



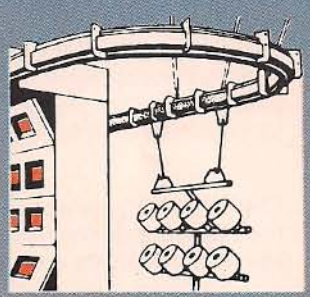
BURNER ACCESS

Press–button operated hinged doors provide ready access to the rear of burner panels for ignition and servicing. Ignition is normally manual via detachable lighting torch, but automatic start–up can be provided for large installations or inaccessible situations.



CONVEYOR SYSTEMS

Any standard overhead conveyor system can be used, travelling through the oven in a specially fabricated channel in the canopy. Variable speed control enables optimum use of the oven's versatility. Maywick are pleased to quote for ovens complete with associated conveyors on a package deal basis, or to work in close liaison with conveyor manufacturers.



TEMPERATURE CONTROL

Temperature control is normally effected by monitoring the flue gas temperature. Control panels can combine oven and conveyor switching, as well as temperature modulation.

POSITIVE FUME EXTRACTION

A canopy over the oven – fixed in the case of the Rayette, suspended with other models – provides extraction of solvents and products of combustion via a high temperature bifurcated fan.

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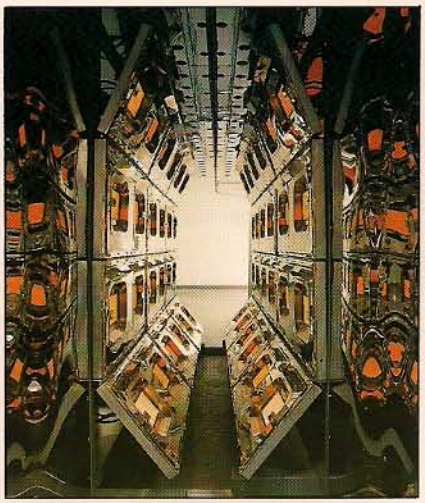
WHY RADIANT HEAT?

Radiant energy raises the surface temperature of coated metals in a fraction of the time taken by the same amount of convected heat and substantially less than that taken by dull-emitter infra-red.
The brief curing time needed with a Maywick radiant oven means that the oven can be typically one third the length of a comparable convection oven - and conveyor speeds faster than with other types of oven.
The superior performance of a Maywick radiant oven results from the incandescent heat produced at a burner surface temperature of 850° C. Materials quickly reach up to 220°C thanks to the high rate of transmission and absorption of radiant energy. And the oven reaches operating temperatures within 5 minutes of ignition, enabling economies to be made by switching off during even short breaks in the working day.
The exclusive use of polished stainless steel on the internal faces of oven panels maximises cross-radiation of the energy not immediately absorbed by workpieces. Combined with convected heat resulting from thermal emissions from the burners, this adds to overall thermal efficiency.

WHICH FINISHES?

Maywick radiant ovens are being successfully used to stove and cure a great variety of coatings, as well as for drying frit prior to vitreous enamelling.
Radiant heat has proved to be equally effective on thin sheet materials or heavy castings, and for fabrications of simple or complex construction.
Where thermoset powder finishes are being applied to heavy workpieces, heating the product prior to application can assist the final cure and a short section of radiant oven is very suitable for this purpose.
Processes for which radiant heat is suitable include:
Curing stoving finishes
Epoxy powder curing
Acrylic powder curing
Drying primer coatings
Plastisol curing
Accelerated paint drying
Drying frit



WHY GAS?

Despite attempts to increase the prices of natural gas in the UK artificially in order to suppress demand, the fuel gases are still less expensive, therm for therm, kilowatt for kilowatt, than electricity.
Compared with an electric oven of similar rating, the Maywick gas-fired unit will prove more economical to run and its combination of radiant energy and convected heat from combustion products provides a particularly effective answer to many process heat problems.

The Maywick process heat range includes high temperature conveyorised radiant ovens; conveyorised air recirculating ovens; box-type air recirculating ovens; and Luminous Wall high temperature radiant heat panels for incorporation into a variety of processes.

Maywick Process Heat

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