



Grilling & Browning



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INTRODUCTION

WMH has been designing and building inline grilling and browning systems for over 30 years. WMH systems have been used for grilling a wide range of products including; cheese and potato topped ready meals, speciality breads, desserts, vegetables and pastry cases.

All WMH grill units are built to order and are designed to suit your specific requirements. Before specifying a grill WMH will carry out extensive in-house and onsite trials to ensure the grill will provide the correct surface finish for the customers requirements.

WMH has a number of trial units which are available for hire and factory trials.

BENEFITS

WMH grills use Heraeus medium wave carbon emitter heating elements, which offer high levels of energy efficiency and provide infrared energy direct to the surface of the product without heating the air around it.

This makes the elements perfect for adding a browned surface to food without raising the core temperature and cooking the product.

OUR SYSTEMS OFFER

- Efficient use of energy and reduced running costs
- Very rapid response times for heat up/cool down
- Very little radiant heat wastage
- Thyristor control for accurate heat control
- Immediate detection of element failure
- High efficiency per unit of energy when compared to gas or oil



CONSTRUCTION

Although each grill unit is unique, all units are built to the same set of standards and include the following key features:

- All stainless steel construction
- Stainless steel flat-flex wire belt
- Elements mounted in cassettes for quick removal and easy cleaning.
- Hinge down side panels for easy access
- Double skinned insulated side panels
- Stainless steel removable catchment trays
- Optional integrated belt wash
- Variable speed conveyor drive
- Connections for cooling air intake and hot air exhaust.
- Suitable for washdown production environment

Optional Extras

- Belt Wash
- High Temperature shut down sensors
- Fire suppression system
- Heater cassette storage trolley



HEATING ELEMENTS

WMH grill units are fitted with Heraeus Noblelight carbon infrared emitters which feature a unique design of the heating filament that combines the effective medium wave radiation with high surface power densities and very short response times in the order of seconds. This high efficiency speeds up the heating process.

A new generation of Heraeus medium wave carbon infrared emitters feature heated lengths starting from 50mm to 1500mm suit individual heating process.

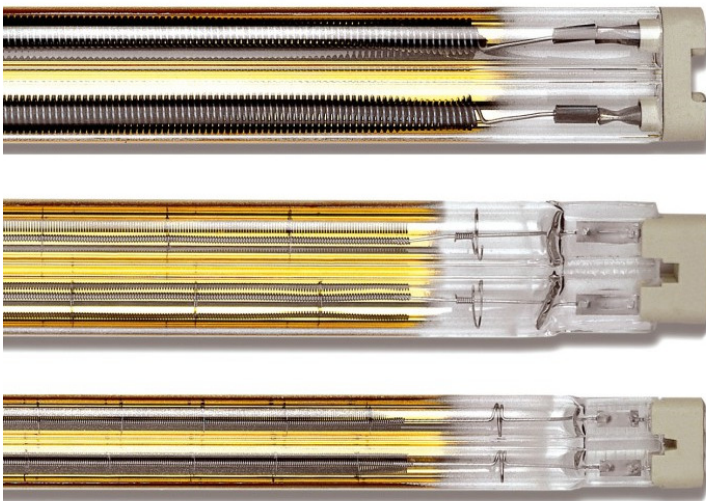
These new emitters are particularly suitable for use in areas where a partial heating is desired, such as surface browning of food products.

Benefits

- Partial heating
- Short response times
- Energy efficient heating process

Technical Data

- Medium wave carbon infrared emitter
- Heated length from 50mm to 1500mm
- Peak wave length: 2.2 μm
- Available in steps of 5mm
- Up to 50 W/cm
- Power variance $\pm 10\%$



TRIALS

All WMH grill units are built to order and are designed to suit our customers specific requirements. Before specifying a grill WMH will carry out extensive in-house and onsite trials to ensure the grill will provide the desired surface finish for the customers requirements.

Initial trials will be carried out at our factory in Callington with products provided by the customer. This will enable us to specify the size of grill required to achieve the production rates.

We do however recognise that products behave differently after being stored and transported

therefore we recommend trials are also carried out at your factory with fresh product straight from the production line. This will confirm the results of the initial trials.

WMH has two trial grill units which are available for factory trials. Specifications for both are given over the page.

Hire

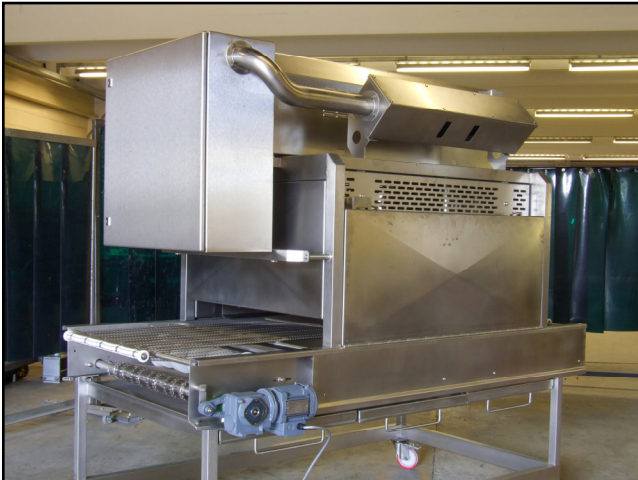
Sometimes our customers will be carrying out trial production of a product, WMH are happy to hire out grill units for extended trials over several months. Please speak to our sales team if this is of interest.



TEST GRILL PICTURES



Clockwise from top left: Small Test Grill, Heater Cassette, Wire Belt, Insulated Undertrays, Hinged Insulated Access doors, Large Test grill



TEST GRILL SPECIFICATIONS - SMALL

Dimensions

- Overall Length: 2100mm
- Overall Width: 610mm (add 175mm over motor)
- Overall Height: 1490mm

Grill

- Power Output: 15kW
- Panel length: 800mm
- Grill Chamber: 1150mm

Conveyor

- Belt Type: Stainless steel flat-flex wire belt
- Belt Width: 305mm
- Belt length: 2100mm
- Belt Height: 900mm
- Drive: Shaft mounted geared motor, variable speed drive

Construction

- Folded stainless steel side sections
- Belt supported on stainless steel rails
- Conveyor supported on stainless steel support frame with swivel/locking casters
- Hinged and insulated access doors to grilling chamber
- 1 x insulated and removable undertray

Controls

- Separate Stainless steel enclosure housing
- Start/stop controls
- Electronic variable speed drive
- E/stop circuit
- Touch screen HMI for adjustment of conveyor speed and power outputs

Service Requirement

- 32A Electrical Supply
- 3ph Earth & Neutral

TEST GRILL SPECIFICATIONS - LARGE

Dimensions

- Overall Length: 2293mm
- Overall Width: 1090 (1218mm over motor)
- Overall Height: 2038mm

Grill

- Power Output: 27.6kW
- Panel length: 800mm
- Grill Chamber: 1290mm

Conveyor

- Belt Type: Stainless steel flat-flex wire belt
- Belt Width: 610mm
- Belt length: 2293mm
- Belt Height: 900mm
- Drive: Shaft mounted geared motor, variable speed drive

Construction

- Folded stainless steel side sections
- Belt supported on stainless steel rails
- Conveyor supported on stainless steel support frame with swivel/locking casters
- Hinged and insulated access doors to grilling chamber
- 3 x insulated and removable undertrays

Controls

- Stainless steel enclosure housing
- Start/stop controls
- Electronic variable speed drive
- E/stop circuit
- Touch screen HMI for adjustment of conveyor speed and power outputs

Service Requirement

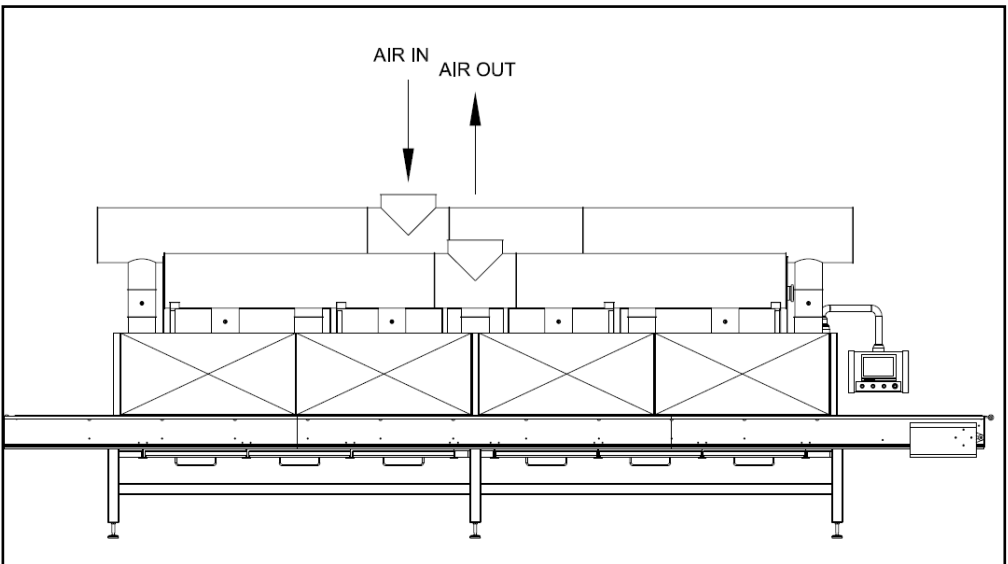
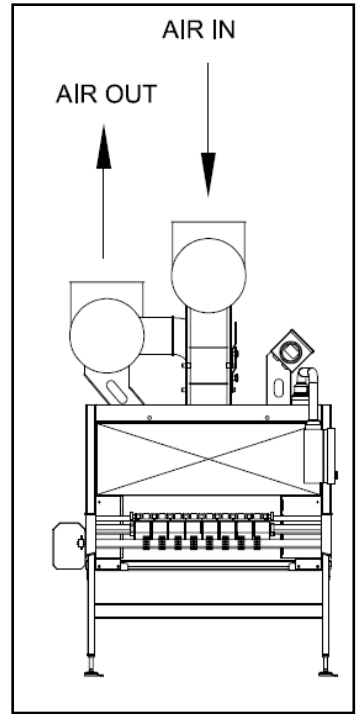
- 63A Electrical Supply
- 3ph Earth & Neutral

AIR HANDLING

All grills require a supply of ambient air to provide cooling of the elements.

Exhaust air is also required to remove excess heat and odours.

The supply of air handling ducting and fans will normally be provided by the factory, WMH will advise on the air flow requirements.



TYPICAL GRILLING TIMES

With over 30 years experience in building grilling units WMH has built up a database of grilling times for products. While these times are specific to the products they can be used as a guide to establish the feasibility and payback offered by a WMH infrared grill.

Some typical grilling times are given below.

Product	Grilling Time
Bechamel sauce	60 Seconds
Breaded Chicken	24 seconds
Cake Icing	37 Seconds
Cottage Pie	75 seconds
Croc Monsieur	40 Seconds
Fries (Potato)	288 seconds
Lasagne (Cold Fill)	85 Seconds
Lasagne (Hot Fill)	60 Seconds
Meringue	42 seconds
Moussaka	40 Seconds
Naan Bread	75 seconds
Onions	288 seconds
Peppers	690 seconds





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