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Feature: Induction Cooking

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How do induction cookers work compared to conventional equipment?

Induction works by the process of passing a high frequency alternating current through an electrically conducting object (usually metal) to create a magnetic field of energy. This energy then induces an electric current in the metal object it comes into contact with it – i.e. in the case of cooking – it creates a flowing current in a metal pan which then produces resistive heating, which heats the food. In an induction cooker, a ferromagnetic coil is placed underneath a ceramic hob that transfers heat directly to the metal pan on top. Whilst the current is large, it is produced by a low voltage.

The induction process works by 'direct' heating of a metal cooking vessel, as opposed to using 'heat transfer' which you have when burning gas on a traditional cooking stove. For nearly all models of induction cooktop, the cooking vessel must be made of a ferromagnetic metal or placed on an interface disk which enables non-induction cookware to be used on induction cooking surfaces.

How widespread is their use becoming?

Induction cooking equipment is becoming cheaper and more cost effective, especially since the interest and acceptance of it is widening and with more ranges becoming available in the market – most manufacturers now offer some form of induction cooking equipment – from the entry level – like our Maestrowave Induction Hob which runs off a 13 amp plug, to full induction ranges, which are an alternative to a traditional gas 6 burner range for example.

The high cost of most induction equipment has held back volume sales in the past. We are seeing more induction equipment being used and coming into the market, with more affordability. And once the acceptance is even more wide spread, prices will definitely be driven down. Further product developments in this area will build on the environmental benefits and the precision cooking control aspects induction can offer.

It is a case, I believe, of educating the industry about the benefits of this different way of cooking and whether that is at the catering college level or kitchen design/specifier level, is yet to be seen, but more chefs need to be able to appreciate the speed, control and productivity that can result from induction cooking. We have seen though that this type of cooking is becoming more popular, especially front of house with easy to install counter top induction hobs coming into their own.

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What factors should be considered before buying an induction cooker?

Caterers need to assess their real needs in line with current and future menu requirements, covers and times/peaks in service. They should also look at their current catering facilities in line with whatever budgets they have available – is there a case for prime cooking equipment replacement or could just a couple of stand-alone induction hobs provide them with the additional speed and productivity required for certain menu items - complementing their operation?

There are a number of options available now but it depends to what extent an operation may want to introduce it. Induction could be the prime method of cooking, so as with all large equipment investments they should look at the entire lifetime costs and the potential savings that can be made due to induction's efficiency or for a very small investment they can introduce induction into the kitchen by using a small induction hob, it could complement an existing set up very cheaply.

What pans / equipment work well with induction?

For nearly all models of induction cooktop, the cooking vessel must be made of a ferromagnetic metal or placed on an interface disk which enables non-induction cookware to be used on induction cooking surfaces.

What are the safety advantages of using induction cookers?

Induction hobs and cookers produce no background heat as induction heats only the pan and since the glass hob surface retains only minimal heat, reflected from the pan, so it is significantly safer than other cooking methods that produce flames or use red-hot heating elements.

What are the environmental advantages of using induction cookers?

Induction cooking is faster and more energy-efficient than traditional electric cooking and what many people don't realise is that it allows for the instant control of cooking energy similar to gas burners. Induction is direct heating and only heats the pot, so it is more energy efficient and environmentally friendly too.

Induction cooking is environmentally and cost efficient in terms of energy usage – when using an induction hob, for example, almost 95% of every pound spent on energy goes straight into the pan, whereas with gas it's about 50% and with electric it's less than 60%. And with energy prices set to continue to rise, induction could be a good investment for the future.

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Another cost saving and environmental benefit in induction's favour is lower or no extraction costs or air conditioning. This is because the cooking pan itself conducts the heat, the rest of the hob remains cool, meaning no build-up of heat or fumes in the kitchen, resulting in a cooler working environment.

What one tip would you offer on getting the most from this technology?

Ensure you are fully aware of what induction can do for your operation and once you go down the route, make sure everyone is trained on the induction cooking equipment so as an operation you can realise the full potential this kit can bring to your service.

Please include any other comments that you feel our readers will be interested in.

Whatever the choice of equipment, make sure you choose sturdy manufacture – this is a must, anything less won't perform or last! Choose a leading brand with an established reputation - don't be tempted to go down the cheap import route. Check the availability of spare parts and after sales service, plus what length of warranty is available.

The Maestrowave Induction Hob is a very good example of an entry level product:

It's a super-fast piece of cooking equipment (a pan of water can be boiled in about 10 seconds) with cooking temperatures adjustable between 60 and 240 degrees centigrade by using the simple touchpad controls – instant changes are possible.

The unit can also detect when a pan is removed, so it cuts energy automatically – a great safety feature as well as an energy saver – this feature can save between 40-70% energy over conventional hobs once the pan is removed – this could mean a saving of over £3,000 per year! Another plus point is their ease of installation – just plug in and go!

Please include a definitive website address where readers can go for more info on your company

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