



EDUcatering Magazine – October 2014

Feature: Induction Cooking

Please attribute any quotes on this information to Ray Hall, Managing Director, RH Hall Ltd

What is induction cooking?

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.

What are the advantages of induction cooking?

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. Other cooking methods produce flames or use red-hot heating elements; induction is direct heating and only heats the pot, so not only is it significantly safer, but more energy efficient and environmentally friendly too.

Induction hobs and cookers produce no background heat as induction heats only the pan, resulting in a cool working environment with lower or no extraction costs and since the glass hob surface retains only minimal heat, reflected from the pan, cleaning is easy and quick.

Isn't induction expensive and doesn't it require schools to buy brand new cooking utensils too?

Induction cooking equipment may still be more expensive than traditional methods at the moment, but it 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. ***Cont'd ...***



The high cost of most induction equipment has held back volume sales in the past. I believe that we will see more induction equipment on the market in the next 12 months, which is more affordable and once the acceptance is more wide spread, prices will definitely start to be driven down. Further product developments in this area will build on the environmental benefits and the precision cooking control aspects induction can offer.

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. So if an interface disk is purchased, existing cookware can be utilised.

How does induction affect a school's energy saving goals?

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, so it can certainly help a school towards achieving their energy saving goals.

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.

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.

Are there any new induction technologies coming to market?

New induction equipment is coming to the market all the time as manufacturers see the interest in this form of cooking continuing to grow and most manufacturers now know they have to offer some form of induction cooking in their product ranges. Further product developments in this area will build on the environmental benefits and the precision cooking control aspects induction can offer.

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. **Cont'd ...**



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

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 with easy to install counter top induction hobs coming into their own.

There are a number of options available now but it depends to what extent a school's catering 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.

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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