

Increase quality, improve taste...

Ohmic heating, a revolutionary,
low cost way of heating food

- ✓ 95% Energy
Efficient
- ✓ Super Fast
Heating
- ✓ Superior
Colour &
Flavour



Superior taste and colour

Quality is the major driving force in the food and drink industry, premium products can attract a prime market.

Heating of food during the manufacturing process can radically alter the characteristics of the finished products. Quality and taste can be significantly affected if the processing parameters are not closely controlled.

Conventional thermal pasteurisation heating can lead to a variety of changes to a food's properties. Overheating of parts of foods can lead to undesirable caramel flavours, colour change and loss of vitamin content. Furthermore thermally sensitive products or those containing particulates can suffer fouling or damage of the particulate.

Ohmic processing unit provides a milder heat treatment process which has been independently shown to be a preferred option for heating complex products such as jams or compotes.

Products are heated very quickly and evenly – including those with particulates and solids. The ohmic processing unit yields products with a superior taste, colour and increased levels of vitamins due to its unique heating method and close control of time temperature thermal history, with energy delivery in excess of 95% efficiency.

Fig 1 Ohmic Processing Unit

An ohmic processing unit integrated with heat exchanger for product cooling, pressurised storage tanks and control panel.



Better quality, lower costs...

The ohmic processing unit is very simple to operate.

Yet, it offers significant operational advantages over current production technologies. The system is flexible, scalable, easily retrofitted and requires less maintenance than other methods.

Features

- Can be integrated with existing control systems
- Automatic cleaning using standard CIP operations
- Automatic control, easy to use touch screen facility
- Modular system for complete flexibility
- More even heat distribution
- Handles high solids/particulate content, low shear maintains their shape and appearance e.g. berries
- Handles high viscosity products
- Working temperatures up to 180°C
- Both solid particulates and liquids media are heated volumetrically

Benefits

- Rapid heating – short residence times
- Increased flavour and vitamins compared to traditional heat exchangers
- Easy maintenance - reduced cost
- Less product loss - higher product yield
- Easily retrofitted to existing lines
- High resistance to fouling
- Robust
- Increased efficiency – 95% of input energy transferred to the product



A variety of uses...

The ohmic processing unit has many potential uses in the food industry.

The ohmic processing unit can handle any pumpable food with a normal moisture content from beverages, fruits and vegetables through to meat based products, confectionery and convenience foods, examples and candidate products include:

Beverages

Fruit juices, nectars, smoothies, pulps and coffee extract

Convenience foods

Ready meals, soup, sauces, baby food, rice and rice pudding

Dairy

Cheese, yoghurt, creams, whey products, milk and liquid egg

Fruits & Vegetables

Jams, fruit compotes, fruit puree, diced fruit, juices, diced vegetables and tomato products

Meat

Meat and protein products

Your product not listed? We may have a solution for you, so why not get in touch with one of the team.



Save money... Increase performance

**your partner for
process improvement and new product
development.**

Our team of engineers and scientists can support you from carrying out initial trials on samples of your product for evaluation through to installation and commissioning new production equipment on your site.

Control System Integration

Maintenance of process conditions is achieved through automated monitoring and adjustment of temperature and flow, meaning manual input is kept to a minimum. We can fully integrate control systems with that of other equipment where necessary.

Process Optimisation

Optimisation of heating is vital to the efficient and cost effective production of foods. The ohmic processing unit can be used to heat from cold infeed to target temperature or, for reduced energy demand, preheated product can be heated to target temperature using the ohmic heater in the highest temperature zone.

Component Selection

Our engineers are able to select and fit the optimum pumping solution for a variety of food types. Often the product to be heated is delicate (e.g. soft fruits) and must be moved through the heater with minimal damage.

Experience of integrating this requirement with other equipment is essential to maintaining a high quality product.

System Configuration

An ohmic heating system can be configured and built to integrate with aseptic or hot filling or cold filling equipment.

