



OHMIC HEATING

An innovative solution for continuous processing of food products

Over the past few years, CTCPA, an agri-food technical hub, has developed strong expertise in ohmic heating. This technology is used to sterilise or pasteurise products – with or without particulates, acids or alkalis – packaged after processing.

Carnot Qualiment Institute

Scientific / technological breakthrough

Ohmic technology can be used to heat-treat bulk volumes of food matrices (comprising liquid phases and/or pieces) in a homogeneous and volumetric way. The technology is based on the conductive properties of food matrices and on the Joule effect, i.e., the thermal energy released when a current is passed through the food. The food is passed through a tube fitted with two electrodes separated by an insulator, to which an alternating current is applied. The current then passes through and heats the matrix both homogeneously and volumetrically. The applications of ohmic heating have been expanded over time to increasingly complex and varied products, with a constant focus on quality.



Competitive advantage for the economic stakeholders

Ohmic heating is a performance booster for the agri-food industry, enabling heat to be generated within the product itself – in the particulates – quickly and with high thermal output.

Food matrices can be sterilised or pasteurised while significantly limiting any cooking effect and preserving the food's organoleptic and nutritional qualities. The most useful applications concern thermally stabilised products kept at room temperature with a minimum shelf life of several months that use aseptic filling.

