

PROJECT PROFILE

Project: Low-Fat Vegetable Snacks
Product/Process: Thermal Processing for Continuous production Line

Summary:

With food development partner, PMS Ltd, Petrie have developed a commercially viable process machine that utilises fresh vegetable ingredients, turns them into dough thanks to Petrie steam MW conditioning unit and extrudes them into any shape.



Description:

There has been growing demand from key customers in the global snack food sector for healthier, low- fat snack alternatives. This is due to greater awareness of obesity and related health issues.

The challenge facing Petrie was to provide an industrial solution for the pre-conditioning of *fresh* vegetables into a form suitable for extrusion and further processing. The end product being an added value, low-fat and healthier vegetable snack.

How could dielectric heating technology (Radio Frequency or Microwave) provide a solution?

Background:

Traditionally vegetable snacks can be made from either of two methods; from reconstituted dry starches or from sliced vegetable matter. Commercial snack production has traditionally favoured the use of dried starches which can be reconstituted to a given solids content and extruded into any manner of shapes.

However, dried vegetable matter needs to be treated with antioxidants and preservatives to allow for extended shelf life.

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Solution – Continuous Snack Production Line

Petrie knew that the only commercially viable process for utilising *fresh* vegetable ingredients in snack production was that patented by their food development partner, PMS Ltd.

The PMS process uses *fresh* vegetable ingredients that can be extruded into any shape.

However, before the material can be extruded it must be made up into dough with the help of a Petrie steam/ microwave conditioning unit.

This allows *fresh* vegetable products to be processed to the required moisture and solids content prior to extrusion and final bake-off.

Benefits:

- Healthier, low-fat, added value products
- Consistent texture and taste
- Product quality is unaffected by seasonal variation in the raw material
- No additives or preservatives
- Increased shelf-life

The Petrie microwave/steam process, when integrated as part of the PMS patented method for snack production, provides significant advantages over conventional methods using dry ingredients: PMS technology is proven, with several full scale processing lines in commercial production around the world, operating under licence. www.pmssnacks.com