

FOOD PROCESSOR EMPLOYING PULSED FIELD (PEF) TECHNOLOGY

TECHNOLOGY DESCRIPTION

- The device uses pulsed electric field (PEF) technology to process food at low temperatures (approx. 42°C).
- High-voltage pulsation is a gentle way of preparing food, in which all healthy substances, especially vitamins, are preserved.
- During processing, cell membranes in food cells are opened, which allows better absorption of vitamins and enzymes within the human body.
- Food is sterilized by a pulsed electric field and is therefore suitable for direct consumption.

UNIQUE FEATURES AND ADVANTAGES

- The food processing method is highly energy efficient (the device is powered by 220 volts).
- Processing is very fast (pulsation process takes only a few seconds).
- The opening of the cell membrane that occurs during the processing allows the human body to absorb nutrients and vitamins more easily (for example, after processing carrots with a pulse heater, the human body receives almost 95 % of beta-carotene, while consumed in its raw state only 20 % would be absorbed).
- The maintenance of low temperature during processing means that processed food can be consumed as part of a raw diet.

POTENTIAL APPLICATION AND USE

- Our technology is ideal for use in industrial food processing, but also as a home food processing appliance.
- It is a technology with a wide market potential, applicable to numerous groups of end-customers (baby food, nutrition in medicine, raw food, healthy lifestyle).
- During pulsation process it would be possible to achieve a temporary opening of cells' membranes, when another substance can be introduced inside them (for example supplements such as food dye, essential oils or enzymes).

WHAT WE LOOK FOR

- We are looking for partners manufacturing food processing equipment, who are interested in application of innovative new technologies.

THE OWNER OF INTELLECTUAL PROPERTY

CULS

IP STATUS

**CZ utility model granted
CZ patent granted
International patent application in process**

TECHNOLOGY READINESS LEVEL

Prototype, technology validated in lab (TRL4)

CONTACT

Mgr. Barbora Prixová

T: +420 731 889 906

E: prixova@rektorat.czu.cz