e-COOKING®

THE SPECIAL AND UNIQUE NUTRI-PULSE® E-COOKER®

FOR PULSED ELECTRIC FIELDS FOOD RESEARCH

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What is the Nutri-Pulse® e-Cooker®?

- the Nutri-Pulse® is developed for e-Cooking® which is a revolutionary and radical new way of preparing food;
- e-Cooking® combines in a smart way the effects of electroporation and pulsed ohmic heating in the preparation of food products. This results in better conservation of the original nutritive value and the original flavor, colour, structure and taste;
- the Nutri-Pulse® has three compartments working independently of each other. The compartment consists of two vertical electrodes which are connected to a high voltage pulse generator inside the apparatus;
- it has wireless electronic communication;
- different process parameters can be programmed and results can be logged;
- a semi-automatic bench-top equipment for controlled application of pulsed electric fields to foodstuffs and possible other products;
- in this scientific version optionals (e.q. oscilloscope) can be connected to the equipment for carrying out measurements.

Salmon after e-Cooking®

Revolutionairy technique: Discover the new way of preparing food

WHY CHOOSE THE NUTRI-PULSE® E-COOKER®?

The Nutri-Pulse® e-Cooker® offers you the possibility of testing e-Cooking® on different aspects of food, like structure, nutritional and organoleptical features. In a safe, simple and reproducible way you can customize and analyze your cooking process using less energy . It is also possible to develop new e-Cooking® purposes and products for scientific or applied research.

Unique device

- high speed homogeneous cooking at low temperatures (50 - 100 ° C)
- mobile, convenient in use and can be set up in minutes (no hood necessary)
- conforms to the latest European safety standards and carries the CE mark

e-Cooking® possibilities

- different sizes of compartments (designed for small batches 100 – 600 gr)
- electronically pre-programmed cooking strategies
- different effective field strengths

Control panel and information logging

- wireless communication using tablets
- real time data produced and processed during cooking process (voltage, current, electrical conductivity, number of pulses, temperature)
- suitable for connection to peripheral devices (oscilloscope, logfile reader)
- in the nearby future it will be possible to share results of experiments between different users via internet

HOW TO USE THE NUTRI-PULSE® E-COOKER®?

1. Install the bench top equipment on a table and connect to a power outlet

2. Put the food product in a basket and use bouillon or sauce as an energy transferring aqueous medium with known conductivity (1 – 12 mS/cm).

3. Bring the filled basket in the e-Cooker® and place the temperature meter

4. Close the equipment and select for each basket a cooking strategy in the program on the tablet

5. Press the electronic start button on the tablet screen

6. The e-Cooker® handles the food with electrical pulses in accordance with the choosen cooking strategies

7. The cooking temperature is real time measured

8. If the required temperature and time is reached, the unit automatically stops

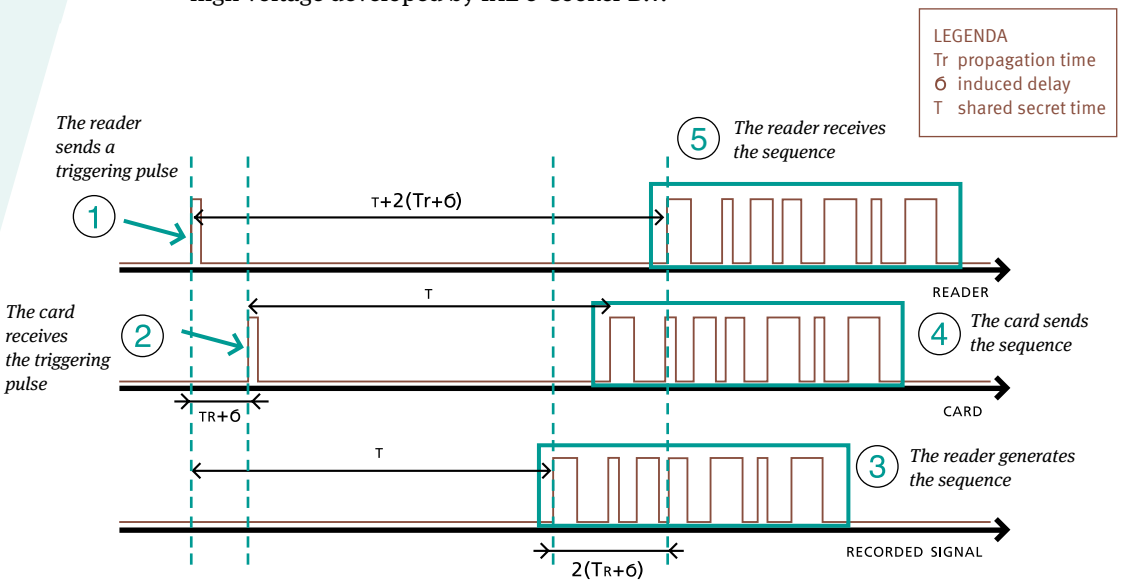
9. After opening, the finished cooked product can be taken out of the basket(s)

Surprisingly different: Preparing a healthy hot meal at low temperature in a short time

TECHNICAL INFORMATION ON THE NUTRI-PULSE® E-COOKER®

A. Creation electrical pulses

Electrical pulses are made in a unique pulse generator of high voltage developed by IXL e-Cooker B.V.



Reference chicken filet after preparation in a frying pan

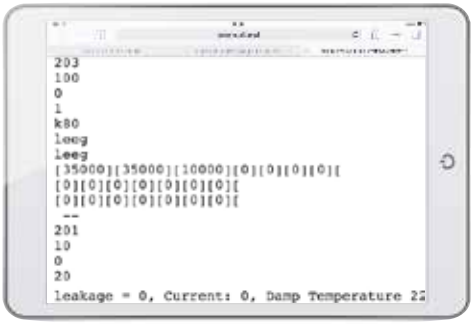
Outsite layer reached temperature > 150°C to reach inside temperature 75°C.

Chicken filet after e-Cooking®

Homogeneous cooking at low temperature (75°C).

B. Control panel and information logging of the Nutri-Pulse® e-Cooker®

The e-Cooker® uses a wireless control tablet and the creation of real time information log files is possible.



OPTIONALS FOR THE NUTRI-PULSE® E-COOKER®

1. Osciloscope
2. Log file reader
3. Conductivity meter
4. Digital temperature meter with quick response time
5. Treatment chambers – additional form and sizes
6. Software license and yearly update contract
7. Energy consumption measurement

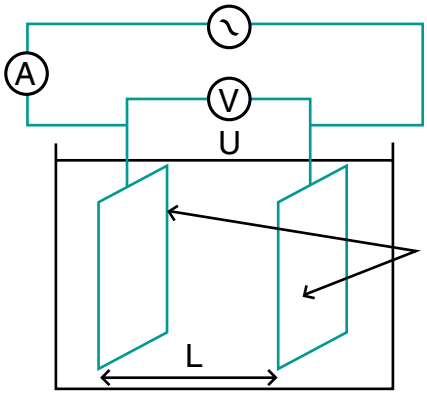
C. Technical data of the Nutri-Pulse® e-Cooker®

General features

- Size closed situation (L x H x B) / Weight: 43 x 31 x 37 cm / 11 kg
- Volume small treatment chamber: 300 ml
- Size small treatment chamber (L x H x B): 14 x 10 x 4 cm
- Different size treatment chambers are available on request
- Electrical connection: 220- 230 VAC, 16 A, 50 Hz

Technical features

- Operational voltage: 100 – 600 Volt
- Strength of electrical fields: 25 – 150 V/cm
- Changeable pulse durations from 2 µsec
- Maximum power input to the treatment chamber: 3000 W
- Titanium electrodes
- Distance between the two electrodes in the treatment chamber: 2 – 4 cm.



Principle drawing treatment chamber

PRE-ORDER
e-Cooker®
during congress
6-10 sept 2015
›› LIMITED QUANTITY ‹‹

IXL NETHERLANDS B.V. AND IXL E-COOKER B.V.

IXL Netherlands B.V. is an innovative Dutch company that develops special technological concepts from idea to the market. The Company's guiding principle is People, Planet, Prosperity. It chooses technologies that contribute value to society, such as the Pulsed Electric Field (PEF) technology used in the Nutri-Pulse® e-Cooker®. Cooperation with companies, universities and institutes is essential for the succes of IXL Netherlands B.V.

IXL e-Cooker B.V. is the Marketing and Sales organisation who brings the radical innovations of the e-Cooker® to the market.

REFERENCE E-COOKING® TECHNOLOGY

August 2014:

The Nutri-Pulse® e-Cooker® wins the *Global Food Industry Award 2014* in the category Product and Process innovation during the *IUFoST 17 th World Congress of Food Science and Technology & Expo in Montreal*, Canada.

November 2014:

Professor Damijan Miklavčič, University of Ljubljana, Faculty of Electrical Engineering mentioned the Nutri-Pulse® e-Cooker® during his TEDx-talk in Ljubljana, Slovenia.

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