

PULSED POWER IN FOOD PROCESSING



► Pulsed Power in Food Processing

Pulsed power can be used for a wide variety of purposes in the field of food processing. At DIL the ELCRACK®-process has been developed to improve the extraction of fruit and vegetable juices, oil, pigments or other substances. In meat tissue the removal of water or the uptake of marinades, spices or auxiliary substances can be sped up. ELCRACK® is conducted at room temperature with processing times in a range of seconds.

Liquid foods can be preserved by Pulsed Electric Field application at ambient or slightly elevated treatment temperatures. While achieving microbial inactivation the product quality and freshness as well as nutritional properties are retained. Other pulsed power applications include ultrasound, pulsed light, as well as electrohydraulic shockwaves, which allow meat tenderization and tissue disintegration.

The DIL pulsed power application centre offers a worldwide unique possibility to evaluate potential applications and to perform pilot productions. State of the art equipment is developed at DIL and used hand in hand with well established microbial, chemical and physical analysis to allow selection of an optimum process for your needs.



»» ELCRACK®

- Improvement of fruit or vegetable juice and wine extraction
- 5 and 30 kW, 30 kV pulse generator, continuous, up to 10 t/h

»» ELCRACK®

- Improvement of oil yield
- 5 and 30 kW, 30 kV pulse generator, continuous, up to 10 t/h

»» ELCRACK®

- Acceleration of meat drying, brining and curing
- 8 kW, 30 kV generator, batch, up to 1 t/h

»» Pulsed Electric Fields

- Preservation of liquid foods, water and nutrient media
- 5 and 30 kW generator, continuous, up to 2 t/h

»» Pulsed Light (UV and IR)

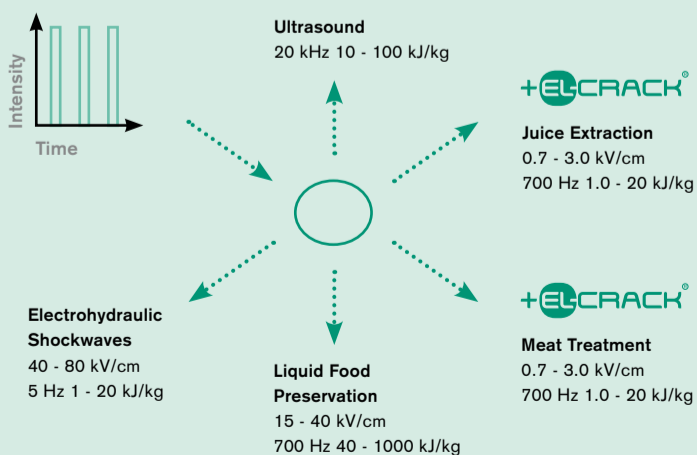
- Microbial decontamination of surfaces, tools and food
- 6 kW generator, batch or continuous

»» Electrohydraulic Shockwaves

- Meat tenderization, tissue disintegration
- 10 kg pilot scale equipment

»» Ultrasound

- Emulsifying, dispersing, deagglomeration
- 4 kW continuous reactor, 200 l/h



BENEFITS

- Continuous tissue disintegration, improving yield of intracellular substances
- Acceleration of meat drying, brining and curing
- Gentle preservation of liquid foods at ambient or slightly elevated temperature
- Energy efficient, safe and waste free technology with short processing times
- Tailor-made equipment solutions