

PEF Pilot Sterilization System with two chambers WT-2xPEF-P1

for juices, liquids and solid foods, with customized and scalable features:



1: Control panel:

Allows to select from broad customized pulse parameters and for its control, e.g. as below:



- Pulse rates, Hz: 4, 20, 100, 500, variable 4-100;
- Pulse lengths, μ s: 2,5, 5, 10, 50, variable 2,5-20;
- Selectable time for pulsing: 1s-24h;
- Applied HV: 1-25kV with electrical fields in each PEF chamber up to 50kV/cm;
- Applied power: up to 2kW,

Pulse shapes:

- positive rectangular, fronts of ca.1 μ s;
- Flatness: ca. 2% at 5 μ s, ca.10% at 25 μ s;
- pulse controls: by a digital scope (provided).

Other parts:

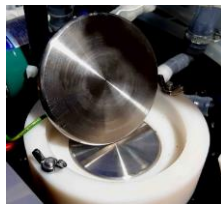
2: batch vessel: 3: magnetic pump w. adjustable speed, 4-drain valve, 5: coax vortex type PEF chamber for liquids; 6: flat round PEF chamber for solid or cream samples, 7: flow meter 5-600l/h, 8: liquid distributor either back to the batch by valve 11 or for a flow-through by valve 10, 11: fill-up nozzle.

PEF chambers for liquids:

a: coaxial with the active length of 250 mm & 4.5-5 mm gap, vortex type flow inside;
b: a co-liner chamber.

For solid samples:

a flat round chamber for samples with up to 140mm diameter, 4-24mm thick. It is also for PEF juice/colors extractions from plant cells.



Chambers are from a food grade polished stainless steel, insulators - a food grade white Polyamide.

Convenience and safety:

Chambers are interlocked and switching from one to another takes 1 min. Easy to use.

Maintenance:

Easy to flash the whole system, major parts are sold on the open market. Silicon hoses can be easily replaced after changing types of juices/liquids.

PEF is for sterilizing bacteria only by strong electrical fields with sharp square pulses which stretch bacteria to it raptures. Bacterial inactivation for this system in clear juices/liquids can reach:

~ 4-6 logs for 250l/h and ~ 2-3 logs for 500 l/h.

The system dimensions:

Width: 790 mm, Height: 1000 mm plus wheels with stoppers 70mm; Depth: B=590 mm; Weight =ca. 80kg.

Electrical: 1 phase 230VAC, 12A, 2kW, EU plug

Cost-effective system for finding production parameters or for R&D.