

PEF Two-Stage Sterilization System SBS-PEF-PV1

for juices, various liquid foods and semi-liquid creams:



Bacteria sterilization capability:

at 250l/h ~ 4-6 logs, at 500 l/h ~ 2-3 logs;

The system dimensions:

L=1100 mm, H=1300 mm; B=600 mm ;
on wheels with stoppers, weight ca. 80kg

Electrical connections: 1 phase 220VAC, 20A,
3kw, or optional 3 Phase 380 VAC, 10A, 5 kw;

PEF major parts as shown on the left:

#1: Analogue controls:

On-Off switch, LED status lights for rep. rate and pulse duration by a rotary switch, HV on-off switch, timer for pulsing, pulsing controlling LED lights, Emergency OFF-red push-button, BNC connectors for a scope, PC scope.

#2:- batch vessel for a treated juice,

#3: forwarding pump,

#4 and #5 treatment PEF chambers,

#6: juice cooler (tap or refrigerated water);

#7: valve systems to select between a flow-through and a batch circulation treatment;

PEF Parameters:

- El fields kV/cm: up **20 to 35kV**;
- Rep. Rates, Hz: 10, 25, 50, 100;
- Durations in μ s: 2.5, 5, 7.5, 10, 15, 20;
- Shape: positive rectangular, fronts of ca.1 μ s.
- Flatness: 2% at 5 μ s: 10% at 20 μ s.
- Pulse current through a treated liquid depends on its conductivity, it varies from ca. 10A to ca.100 A/pulse:
- Max pulsed power output for each stage: 2 kw;
- Selectable time for pulsing: **3s-8h** or continuous;

Maintenance:

Easy to flash the whole system,
major parts are sold on open market.

Options:

- #a: custom PEF chambers, e.g. for creams;
- #b: Automatic operation w. Siemens display;
- #c: PEF sterilization of spores after pre-paid evaluation tests on our PEF R&D system;

PEF chambers:

coaxial, 200 mm long made from food grade polished stainless steel,
insulators: food grade Polyamide,

#4 - stage with variable pulse durations by a rotary switch,
+variable El. Fields: 20 to 25kV/cm by a flipper switch#1;

#5- second stage, same as the first stage or optional custom stage.;

Superior Performance
of two stage PEF system
PEF sterilization is **non-invasive**-
it does not change juice properties.

Practical cost-effective PEF system for juices, etc.