



Pulsed Light Sterilization

Pulsed Light Packaging Sterilization

an up-to-date & cost - efficient alternative
to peracetic acid baths

Industrial case study



Vilsa: « Our VILSA mineral water is a gift of nature. Untouched for millennia, it is nature's purest miracle. To ensure that this remains the case in the future, we have prioritized the protection of natural resources, and it is no coincidence that it is an integral part of our corporate philosophy and the foundation of everything we do »



Range

Mineral water, flavored water, lemonade, spritzers, ACE Vital, splashes

Context

- Sensitive products require sterilization of the closures.
- Until the end of 2012: treatment with PES.
- Running costs too high
- Maintenance expensive.
- Production losses due to the required cleaning time (CIP) for the sterile bath.
- With the wet PES sterilization risk of sensory impact due to the use of lubricant made necessary because of the use of caps with firm sealing.
- With the Pulsed light process closures with loose insert can be used. No lubricant and no risk of sensory impact. Cost savings on the closures.

Line

5 filling lines equipped to date:

May 2011 (First test facility on disposable line)

July 2012 (Replacement for PES bath)

November 2012 (Replacement for PES bath)

March 2017 (New filler from KHS)

November 2018 (New filler from Krones)



Claranor solution

Equipment

CAP STERILIZER powered by an electronic bay
1 lamp optical cavity – 1 flash/cap
Integration above the capper
in the capping/filling closed area

Performance

>4.3 log reduction on *A. brasiliensis*
(Fraunhofer Institut)



Investment bill, details in €	2013	2014	2015	2016
1. Total investment	86 000			
2. Additional revenues of the project no additional revenues	0	0	0	0
Total revenue	0	0	0	0
+ 3. Cost savings				
Sewage	15.915	15.915	15.915	15.915
Chemicals	1.784	1.784	1.784	1.784
Cleaning time	1.269	1.269	1.269	1.269
Maintenance	8.000	8.000	8.000	8.000
Total savings	26.968	26.968	26.968	26.968
./ 4. Running costs of the project				
Maintenance 3%	2.580	2.580	2.580	2.580
Depreciation	14.333	14.333	14.333	14.333
Total cost	16.913	16.913	16.913	16.913
= 5. Result of the project before taxes	10.055	10.055	10.055	10.055
./ 6. Taxes				
ESt thesaur.	0	0	0	0
Trade taxes	0	0	0	0
Total taxes	0	0	0	0
= 7. Results after taxes	10.055	10.055	10.055	10.055
+ Depreciation	14.333	14.333	14.333	14.333
+ other non-cash expenses	0	0	0	0
= lfd. Cash-Flow	24.388	24.388	24.388	24.388
Funds/ inflow including investment	-61.612	24.388	24.388	24.388
Cumulative cash flow incl. investment	-61.612	-37.224	-12.836	11.552

Retrofit or new line Pulsed Light Packaging Sterilization

Efficient & cost-efficient, easy to use & green

Testimonial - achieved goals:

- Filling of even sensitive products without microbiological findings (> 4.3 Log reduction of the *A. brasiliensis*, Fraunhofer Institut)
- Maximum freedom in the choice of the closure supplier
- Low operating costs
- Savings in the field of chemistry
- Increasing safety at work
- Reliable technology
- High system availability

Vilsa thus lives up to its own claim of being suitable for baby food