



LYRAS



REINVENTING PASTEURIZATION

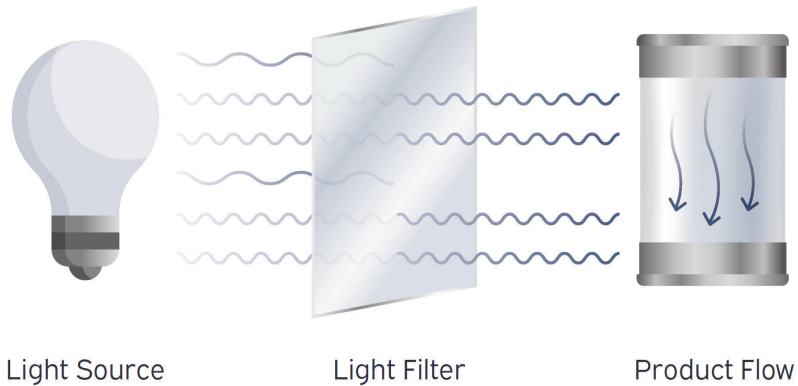


About Lyras

Lyras is a rapidly growing Danish company located in Jutland. We are driven by the ambition to set new and better standards for sustainable food processing.

The heart of our business is the patented cold pasteurization technology, that is built on years of evidence-based research by engineers, public health experts and stakeholders in the dairy and juice industry.

OUR COLD PASTEURIZATION TECHNOLOGY



The natural anti-bacterial properties of UV-light has been known for more than 100 years and is widely used to disinfect drinking water.



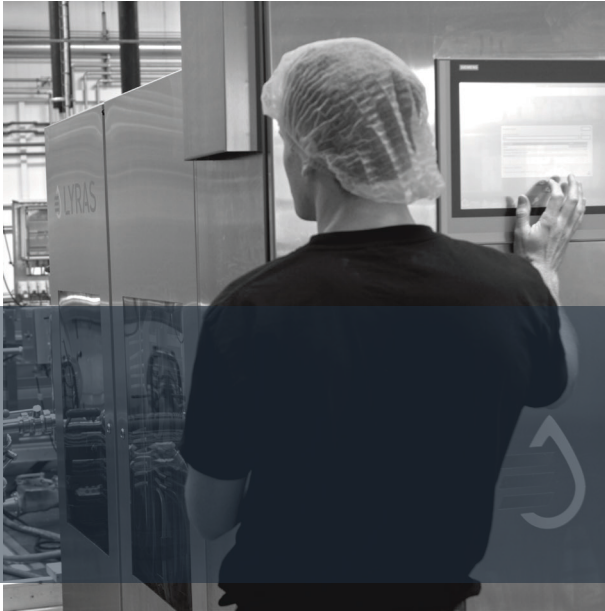
Germicidal lamps are used to generate this disinfecting light. UV-lamps do however omit other parts of the light spectrum which oxidizes the product and lowers the quality. As the first of its kind, Lyras' new and patented system has integrated light filters, which remove these unnecessary and damaging wavelengths.



The light filter only allows for the desired wavelengths to pass through, which inactivates spores and bacteria in the processed liquid, as the unique design geometry creates a turbulent flow that exposes the entire volume of the liquid.



In short, you have a system that can treat any non see-through liquid, e.g. milk, juice and soda.



THE ADVANTAGES

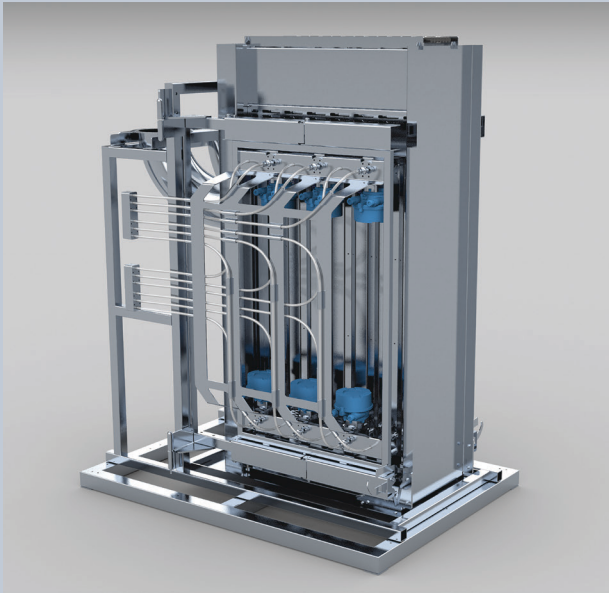
of Cold Pasteurization

- Inactivates bacteria, heat resistant bacteria, spores, viruses, yeast and fungi
- Reduces energy consumption by more than 90%, compared to conventional pasteurization
- Preserves taste, texture and vitamins
- Miniscule heat added to the processed liquid (relies on UV-light rather than heat)
- No need for steam, regenerative water and ice water
- Low product waste
- No food contact material is glass – thereby achieving the highest HACCP requirements
- Greatly reduced heat contribution to production
- Minimal CIP requirements
- Designed for both continuous flow and batch production
- Plug n' play design - minimal supporting infrastructure (only electricity connection is needed)

OUR PRODUCTS

CPS

For treatment of highly opaque liquids with low UV-transmittance that requires our light filter technology.



LTUV

For treatment of highly opaque liquids with low UV-transmittance.



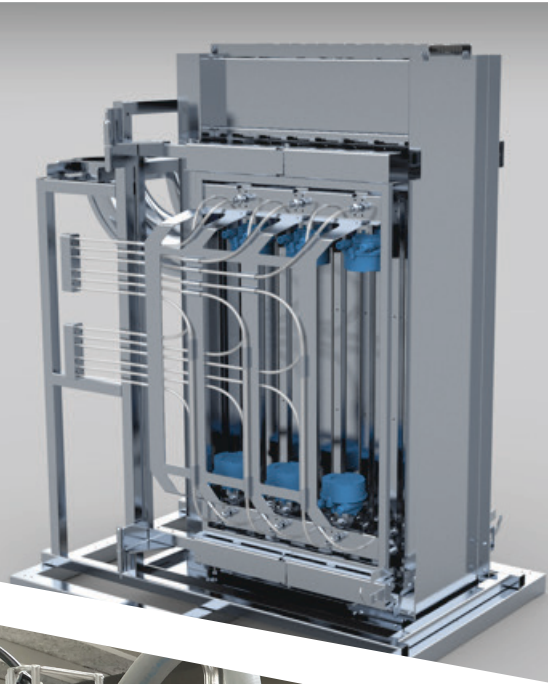
TAP

For treatment of transparent liquids with a low to high UV-transmittance.



CPS

Cold Pasteurization System



CPS is an advanced system for treatment of e.g. juices, milk, beer etc.

- Includes light filters to remove unnecessary wavelengths
- Very fine tubes for better exposure
- Advanced product-flow distribution system for even treatment of processed mediums
- Advanced air-distribution system for optimal system cooling
- Completely modular concept for all capacity requirements
- Advanced control system for simple operation
- Systems 4kW-16kWh per 1 m³/h capacity

LTUV

Low Transmittance UV

- Reduces energy consumption, as no heating is required
- Eliminates the use of steam, regenerative water and ice water during production
- Plug n' play design, as only minimal surrounding infrastructure is required
- Inactivates bacteria as well as heat resistant bacteria, spores, yeast and fungi, prolonging product shelf life
- Protects the product's natural quality and composition, as a minimum amount of energy is used treating the product
- Requires minimal cleaning compared to conventional pasteurization
- Is ergonomically optimized for easy maintenance at floor height, ensuring no heavy lifting
- Increases production uptime and decreases running costs
- Meets the highest safety standards and HACCP requirements
- Achieves remarkably low product waste



TAP-8

TAP-8 is a system for treatment of transparent liquids, e.g. water.

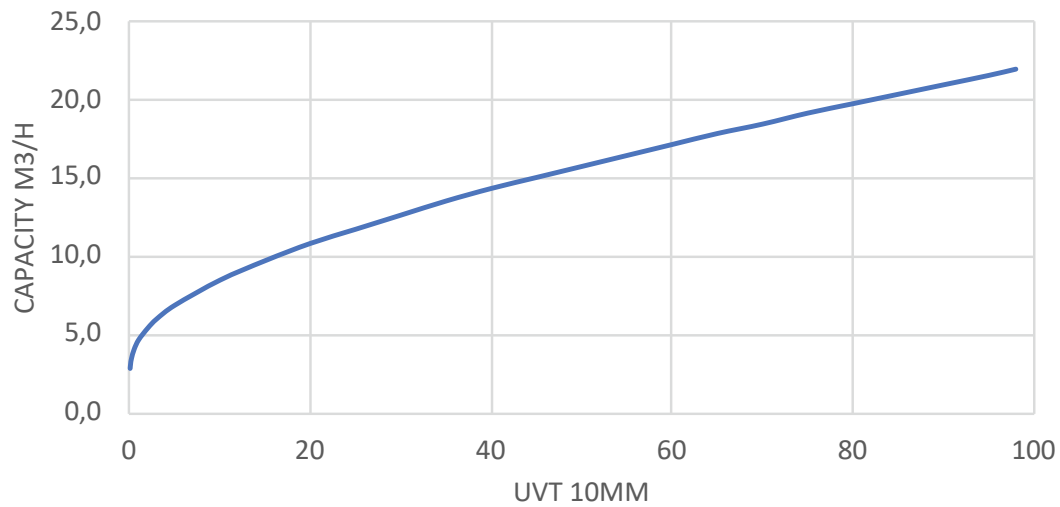


Features of TAP-8

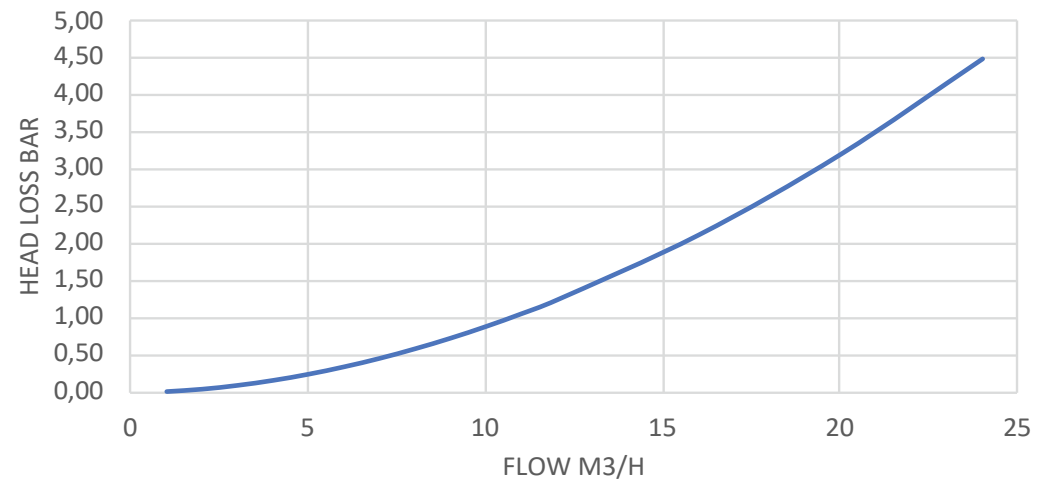
- Hygienically designed and CIP optimized
- No quartz glass as opposed to traditional UV systems
- Easy maintenance – no tools needed for lamp change
- No need to turn off lamps when there is no flow – system is air cooled
- Wall-flush installation
- Systems 0.1kW/h-1kW/h per 1 m³/h capacity (12m³/h at clean water)
- Typically tap water, fizzy drinks and recycled process water.
- Treats liquids down to 3% UVT

TAP-8 CAPABILITIES

CAPACITY AT 400J/M2



HEAD LOSS





LYRAS



www.Lyras.dk