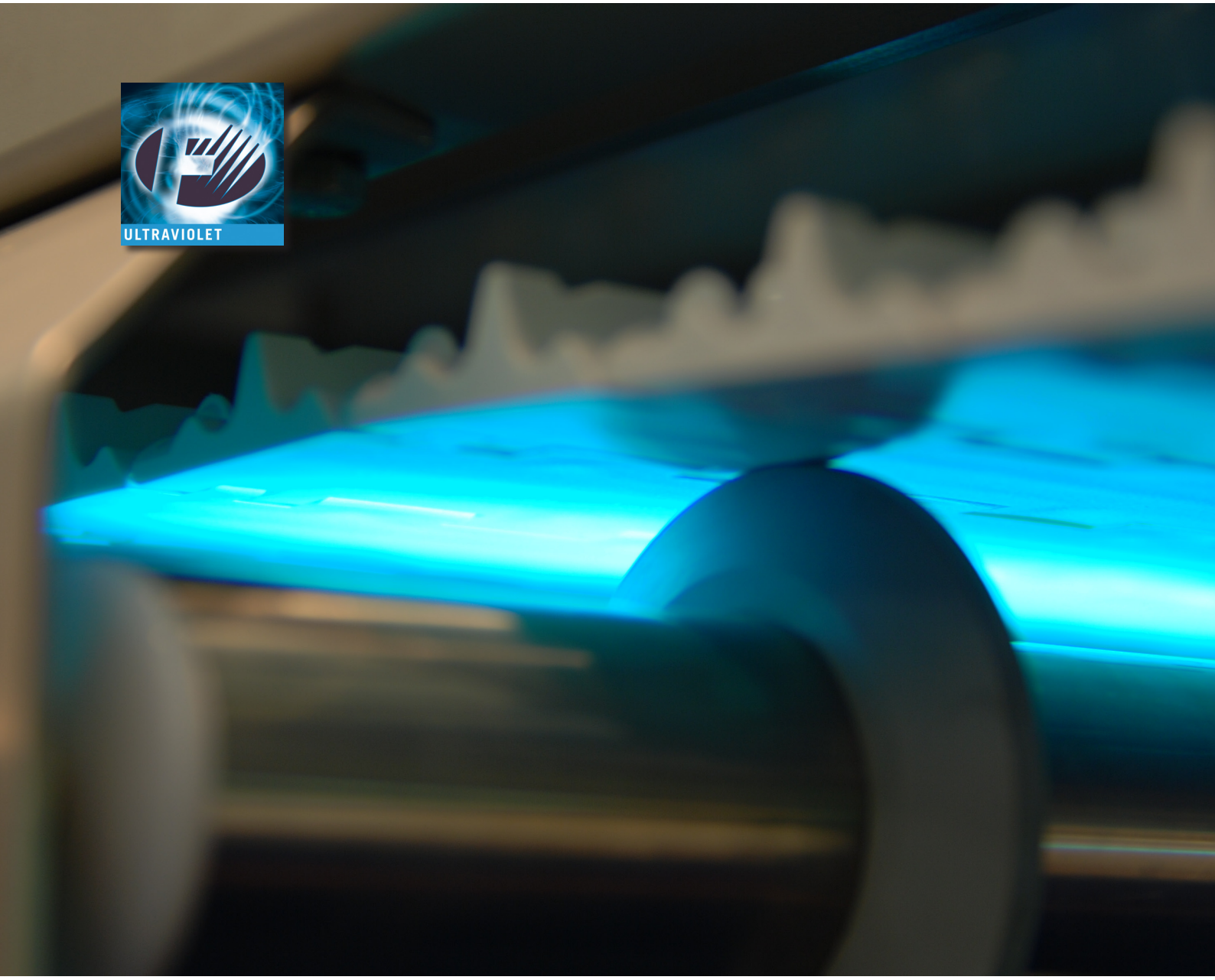
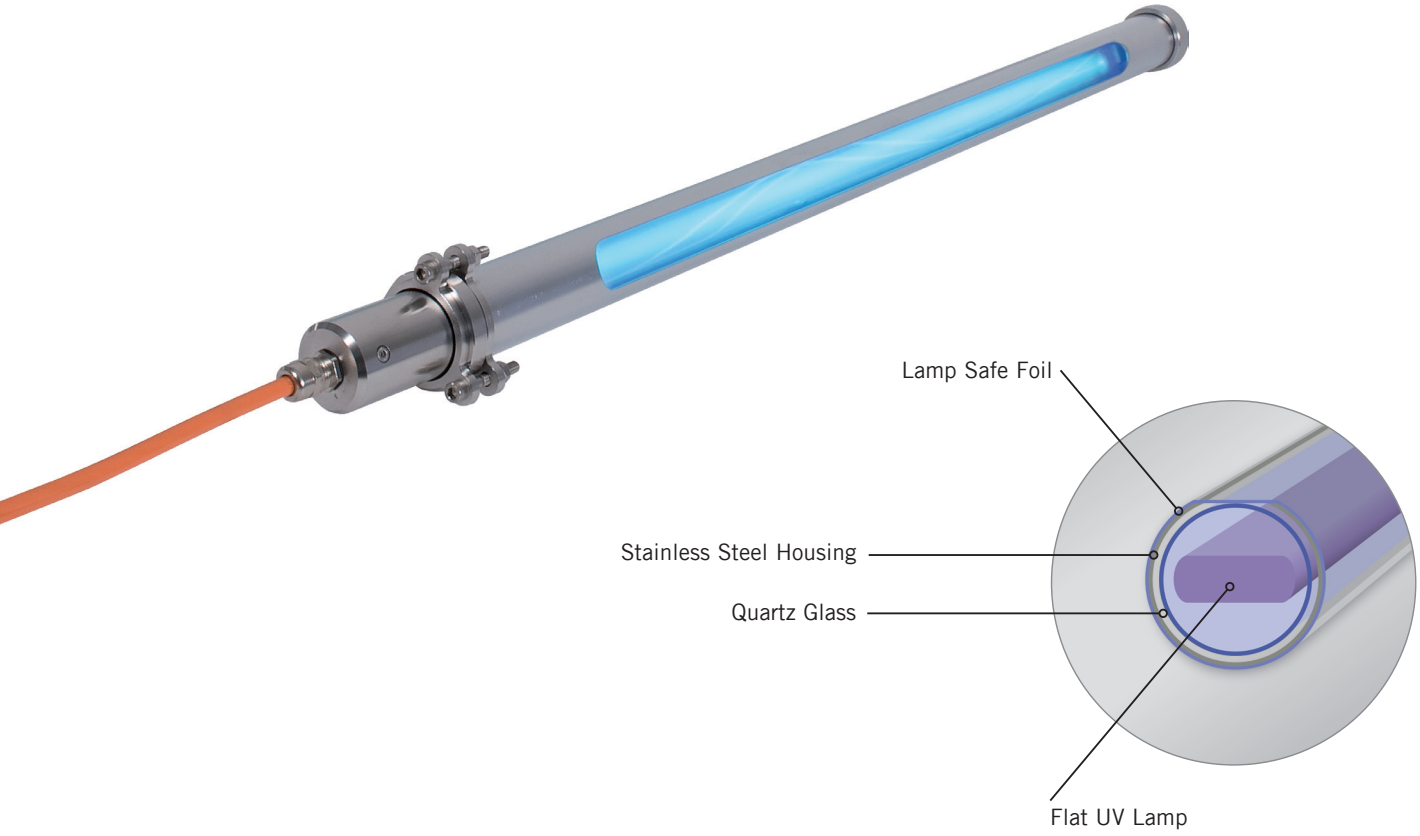
Heraeus



The SteriBelt System

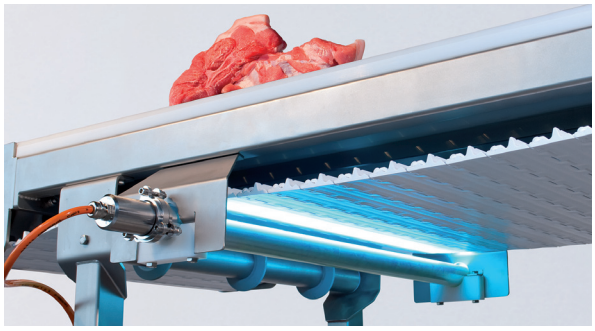
Germ-free conveyor belts without the need of chemicals

The SteriBelt System
Innovative Mercury-Amalgam Flat-Emitter Technology



Areas of Application

The ultraviolet disinfection system is used for the continuous disinfection of conveyor belts in the food processing industry, especially in the meat processing industry.



Operation

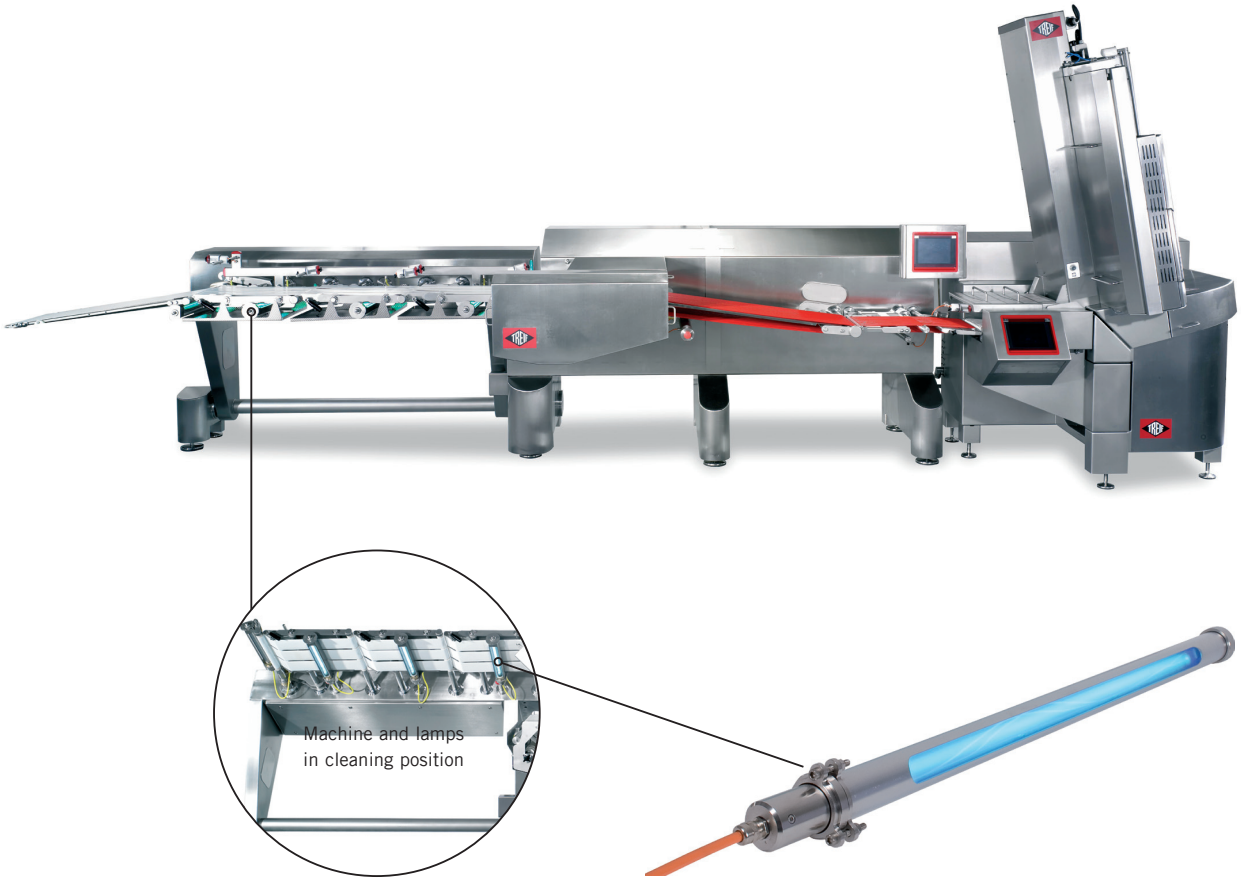
The SteriBelt module is fitted to the conveyor belt at the front face or from below and reliably decontaminates its surface. By exploiting the cumulative disinfection of the continuously circulating belt section, exceptional disinfection rates are achieved for little operating cost.

Objectives

- Improvement in quality and its sustainability in the manufacturing process
- If relevant, extension of product´s shelf life
- Implementation of hygiene regulations

Requirements

A major challenge for food manufacturers is to produce products of ever increasing quality with ever fewer production line stoppages. The presence of germs on the conveyer belts can obviously cause line running problems and must be prevented. Furthermore, increasing market demands to abandon preserving additives, the migration of germs between products on the belt and disinfectant-resistant micro-organisms are deteriorating factors.



Reduce the risks - Improve the quality

Standard features

- Rotationally symmetrical, consequently there are fewer deposits of product residuals on the surface than there would be with a flat plate.
- Robust, stainless steel housing, with no external air- or water-cooling, suitable for operation in low temperature environments.
- IP67 design
- LampSafe shatter protection – UV-resistant special foil (no PTFE or similar) with exceptional UVC transmissivity
- The system can be removed for cleaning from the optional holder without the need for tools.
- Reasonable capital cost and low operating costs. It can also be used for several small band segments and it is suitable for retro-fitting in confined spaces. Simple, onsite emitter replacement.
- Maximum emitter power through the optimized application of Indium Amalgam emitters, with flat lamp technology, which have been specially developed for the SteriBelt module.
- There are no chemicals and there is no ozone. This is an environmentally friendly process.
- The efficiency can be measured and documented for quality control purposes.

Information of innovative lamp technology

Conventional round emitters are not ideal for surface disinfection as they apply only about 1/3 of the emitted radiation as direct radiation onto the surface. The rest of the UV energy reaching the surface gets there by reflection, which means there is significant energy loss.

Our Mercury Amalgam Flat lamp, because of its shape, ensures that more than 50% of the power is directed straight at the surface so that there is a significant efficiency increase. Moreover, for the same geometry, these lamps offer around 3-times the power, making them even more efficient and cost-effective.

Advantages

- Compact construction
- Low capital- and operating costs
- Reliable disinfection power
- Long equipment operating life

Technical data

Model	SteriBelt 280	SteriBelt 420	SteriBelt 650	SteriBelt 800	SteriBelt 900
Window width	280 mm	420 mm	650 mm	800 mm	900 mm
Overall length approx.	578 mm	718 mm	948 mm	1.098 mm	1.198 mm
Lamp type	"Mercury Amalgam Flat Lamp"	"Mercury Amalgam Flat Lamp"	"Mercury Amalgam Flat Lamp"	"Mercury Amalgam Flat Lamp"	"Mercury Amalgam-Flat Lamp"
Nominal power	30 W	45 W	80 W	90 W	100 W
Protection class	IP 67	IP 67	IP 67	IP 67	IP 67
Power supply unit (built in unit)	electronic	electronic	electronic	electronic	electronic
Peak emission	253.7 nm	253.7 nm	253.7 nm	253.7 nm	253.7 nm
Irradiation at 20 mm	20 – 25 mW/cm²	20 – 25 mW/cm²	20 – 25 mW/cm²	20 – 25 mW/cm²	20 – 25 mW/cm²
Warm-up time	15 – 30 min.	15 – 30 min.	15 – 30 min.	15 – 30 min.	15 – 30 min.

Safety Instructions
UVC radiation is harmful to the skin and eyes. The UVC lamp should therefore only be operated under respect of safety measures. UVC radiation at 245 nm can be shielded using normal glass, transparent synthetic materials such as Makrolon® and all non-transparent materials.

Safety signs and / or tripping the lamp by using contact switch is advisible. Surfaces of irradiated materials may change the color after a long time period. UV-stable materials should be used. Due to the intensity decrease in the UV-C range during lamp life, the UV lamp has to be replaced after 4.000 hours to ensure the disinfection efficiency. The units must be correctly connected to ground. A ground fault circuit interrupter (GFCI) must be installed.

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Subject to technical modifications
UVP75E/10.14