PORKKA BLUE
The New, Safer, More Efficient And More Cost Effective
Method For Disinfecting Spaces And Surfaces

PRODUCT

BASICS

PORKKA BLUE – ANTIMICROBIAL SOLUTION

- PORKKA BLUE photon disinfection system deploys blue light whenever the targeted space is not in use.
- PORKKA BLUE photon disinfection luminaires are harmless to humans and materials. The lights are typically controlled either manually (with a switch) or automatically (with a timer).
- Blue light has been shown to destroy bacteria, molds and yeasts with high efficiency. Its power can be enhanced to destroy also viruses and endospores. The antimicrobial properties of blue light have been known for decades, but only the latest developments in LED technology have made disinfection with blue light a cost-effective solution.
- The best solution for surface disinfection is used in eg. the following environments: nursing homes, schools and day care centers, dental clinics, veterinary clinics, grocery stores, restaurants and kitchens, hospitals, laboratories, cleanrooms, food industry, indoor air quality, issue sites, refrigerated waste material storages.

FACTS

ABOUT SAFETY

SAFE FOR MATERIALS AND HUMANS

Porkka BLUE light does not use UV wave length light for added safety.

The Finnish Radiation and Nuclear Safety Authority (STUK) tested [1)] PORKKA BLUE technology of photon disinfection luminaires in its laboratory. The test report shows that the radiation is non-ionizing.

The effects of blue light on human cells have been tested at high dosages. Even doses ten times higher than that used in PORKKA BLUE's solutions caused no harmful or toxic changes to the cells [2)].

Source: 1) Led Tailor 12 April 2017. 2) Liebmann et al., 2010. Blue-Light Irradiation Regulates Proliferation and Differentiation in Human Skin Cells. J Invest Dermatol. 2010 Jan;130(1):259-69. doi: 10.1038/jid.2009.194. Read a study: Blue light alone can eliminate MRSA without inactivation of human keratinocytes (https://link.springer.com/article/10.1007%2Fs10103-019-02774-9).

WHY

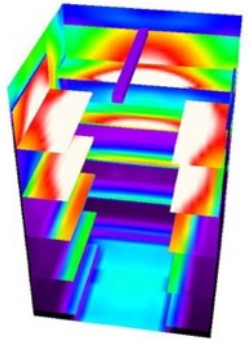
PORKKA BLUE

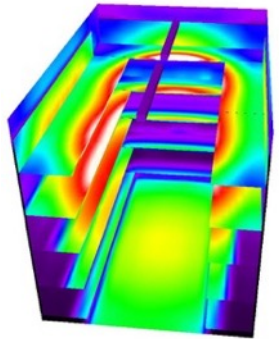
Blue light has been shown to destroy bacteria, molds and yeasts with high efficiency. Its power can be enhanced to destroy also viruses and endospores. The antimicrobial properties of blue light have been known for decades, but only the latest developments in LED technology have made disinfection with blue light a cost-effective solution.

PORKKA BLUE photon disinfection system deploys blue light at night or whenever the targeted space is not in use. PORKKA BLUE photon disinfection luminaires are harmless to humans and materials. The lights are typically controlled either manually (with a switch) or automatically (with a timer or a presence detector).

Extremely well-studied [3)] subject, more than 1,800 scientific publications.

Source: 3) 03/2020 PubMed service with search terms: "antimicrobial" and "blue" and "light"

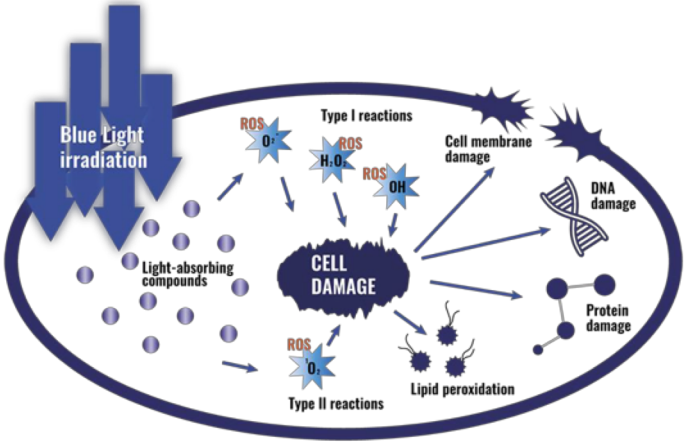




Simulations of PORKKA BLUE in Cold rooms

EFFICIENCY

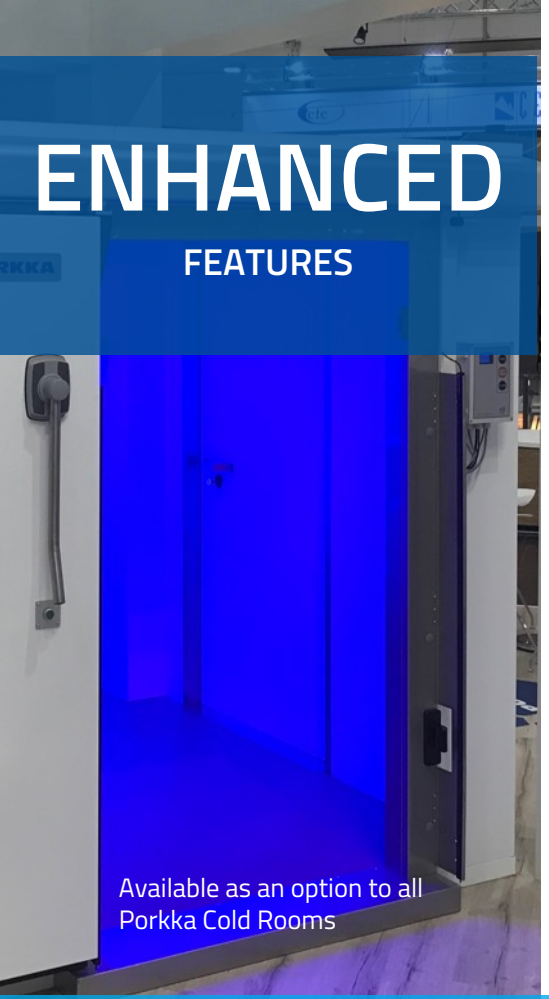
PORKKA BLUE



- The ability of blue light to destroy microbes is based on its ability to energize naturally light-sensitive compounds inside the microbe so that they start producing reactive oxygen species (ROS) inside the cell. Oxygen species are extremely reactive and destroy vitally essential components of the cell (cell membrane, DNA/RNA, protein structures).

- University of Eastern Finland (UEF) has studied [4)] the effect of blue light in cold food storage temperatures to several bacteria and fungi (ATCC Cultures): within 24 hours all pathogenes are inactivated.

Source: 4) to be published 2020



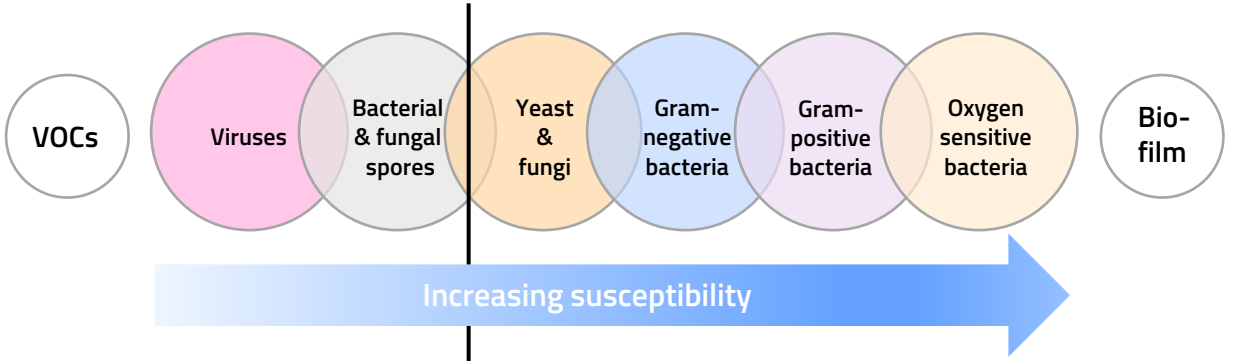
ENHANCED

FEATURES

Available as an option to all Porkka Cold Rooms

ADDED BENEFITS OF THE PORKKA BLUE CAT

Catalytic coating enhance the effects of blue light



Blue light + Catalytic coating combined is effective on all micro-organisms, including viruses and spores.

Reaction also destroys odours and VOC's from the air.

Blue light without the Catalytic coating is effective on all bacteria, fungi, mold and yeast.

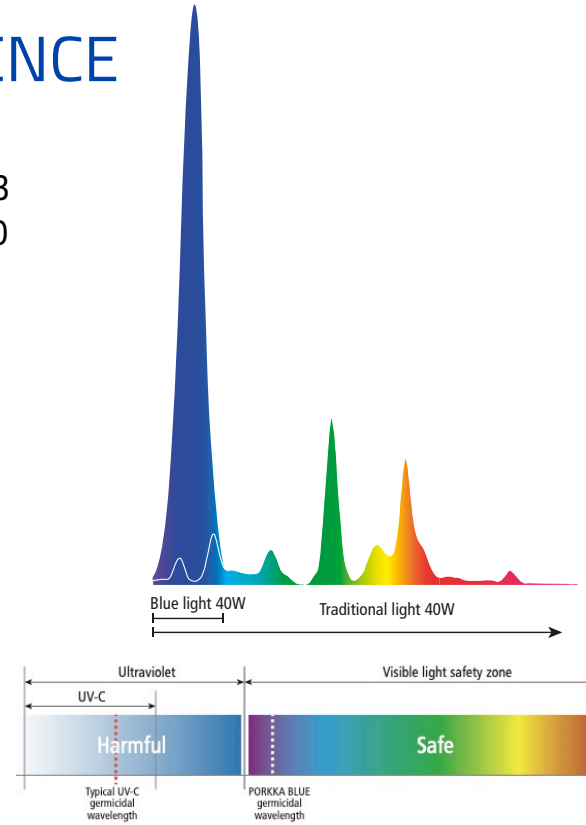
Blue light also penetrates biofilm.

EFFECTS

PORKKA BLUE

BLUE MAKES A DIFFERENCE

- Scientific threshold value of antimicrobial effects is decrease of 3 log cfu/ml or more (10000 units > 10 units) [5)]
- Independent scientific studies show PORKKA BLUE light has a clear antimicrobial effect, eg. Salmonella enterica up to 3,5-5,6 log cfu/ml
- PORKKA BLUE effect is often comparable to UV light.
- The complex structure of the food makes it more difficult to inactivate microbes.
- PORKKA BLUE light is especially suitable for colorful food stuff.



Source: 5) Source to be published 2020

APPLICATIONS

PORKKA BLUE

- FOOD PROCESSING AND STORAGE AREAS
  - SUPERMARKETS, COMMERCIAL KITCHENS
    a. All food handling areas
  - PORKKA COLD ROOMS: Dual purpose solution
    a. White light – when persons are in room, white light is activated for convenience
    b. Blue light – for improved hygiene when door is closed and no person in the room

- BLAST CHILLERS / FREEZERS
  - Blue light active when in prosess or storage mode to avoid microbial contamination

- SCIENTIFIC Medical cabinets
  - Manual control available
  - Blue light active when in prosess or storage mode to avoid microbial contamination

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