

# NEW MEDICLEAN SOLUTION FROM SEMI STAAL

*We combine UVC light  
and ionized air in an efficient  
disinfecting solution for hospital  
beds and mattresses – to the  
benefit of patient safety*

## NEW SOLUTION BREAKS THE CHAINS OF INFECTION

Patient safety is crucial in modern hospital operations. SEMI STAAL and NATDIS have developed a unique solution which, in a documented process, disinfects hospital beds and mattresses without the use of environmentally harmful chemical disinfectants. With our solution, hospitals can efficiently break the chain of infection, improve the working environment and optimise energy consumption.

## AN EFFICIENT BACTERIA KILLER

NATDIS are pioneers in disinfection using UVC light, which is known to kill all forms of bacteria, viruses and fungi. Our solution is tailor-made for hospitals, and integrates UVC light and ionized air into SEMI STAAL's reputable bed and mattress disinfection system, which clean, disinfect and dry the bed and mattresses ready to use.

## LESS IMPACT ON THE CLIMATE AND ENVIRONMENT

Our solution has a low climate and environmental footprint by comparison with conventional disinfection solutions. Energy consumption is significantly reduced compared to steam-based solutions, and considerably fewer chemicals and less packaging are used.

## HOW OUR SOLUTION WORKS

When bacteria, viruses or fungi are exposed to UVC light, the hydrogen bonds in their DNA or RNA are destroyed. This prevents the cell from reproducing, and it will therefore become inactive and die. The ionized compressed air releases particles from the mattress, which are then exposed to UVC light. The combination thereby also solves the challenge of obtaining access to hard-to-reach areas for disinfection.

## TESTED TECHNOLOGY

Our new solution has been tested according to ISO/IEC 17025:2017 by the Danish Technological Institute on a bed and mattress disinfection system installed at Regionshospitalet Viborg. The tested bed and mattress cleaner met the requirements of the NIR (National Infection Hygiene Guidelines from Statens Seruminstitut in Denmark) for Cleaning in the Health and Primary Sector, 2015.

## ADVANTAGES OF UVC LIGHT & IONIZED AIR

- Efficiently kills all forms of bacteria, viruses and fungi
- No risk of building up resistance
- Effective against MRSA
- A more eco-friendly solution
- Up to 95% reduced energy consumption on the mattress disinfection system
- Eco-friendly chemistry, fewer chemical substances in waste water, less packaging
- Less load on beds
- High operational reliability with UVC lamps, giving up to 16,000 hours of service life
- No waiting times in use, which secures continuous operation
- Safe process in a closed environment, with no risk to staff in relation to UVC light impact
- Possibility of collecting data for quality control
- Existing solutions can be upgraded with the new technology
- Log 5 reduction for pathogenic bacteria
- Validated hygiene results < 2,5 CFU/cm<sup>2</sup>

## ENHANCED PATIENT SAFETY

With well-documented hygiene results for its bed and mattress disinfection system, Mediclean Solution ensures a high standard of hygiene for beds and mattresses, thereby reducing the risk of hospital infection and readmissions.

## IMPROVED WORKING ENVIRONMENT

The automated and documented process eliminates the need for manual cleaning of beds and mattresses, as well handling of chemicals and waste.

# THE PATH TO FEWER HOSPITAL INFECTIONS AND READMISSIONS

Every year, up to 100,000 patients – or around one in every ten patients – receive a hospital infection in Denmark, and these infections cause approximately 3,000 deaths. The direct costs to society in the form of readmissions, etc., amount to at least one billion Danish kroner per year.\*

A better standard of hygiene for beds and mattresses helps to reduce the number of readmissions, and is therefore a good investment in terms of both patient safety and operating costs.

*\*Source: "Hygiejne for klinikere" ('Hygiene for Clinicians'), Hans Jørn Kolmos, Professor of Clinical Microbiology, University of Southern Denmark, 2021.*

## SEMI STAAL CONTRIBUTES TO THE UN SUSTAINABLE DEVELOPMENT GOALS (SDGS), INCLUDING:

### GOAL 3,9 & 12:

We contribute to a number of the UN's Sustainable Development Goals, and address, amongst other things, the areas of health, industry and responsible production. In concrete terms, we work with sub-goal 3.9.3 by providing solutions that help to reduce infection and contamination in the healthcare system, sub-goal 9.4 on making industries and infrastructure more sustainable and reducing their negative environmental impact, and sub-goal 12.5-7 on reducing waste through prevention, reduction, recycling and recycling. You can read more about our specific initiatives at: [www.semistaal.com](http://www.semistaal.com).

