



SelfClean Book Sterilizer

Hygiene & Safety

The SelfClean Book Sterilizer from Dialoc ID Products prevents micro-organisms from spreading on library items. Ultraviolet-C light is already in use for sterilization and disinfection since the mid-20th century. It is used to sanitize water, air, fruits, vegetables, surgical utensils, tablets, toys, and a variety of surfaces.

What problems do libraries face?

Studies have been made that accumulated dust in less frequently loaned books are a magnet for all sources of microscopic life, but on the much-loaned books also is found that they had between 25-40 percent more infections than the others.

Bookworms (paper fish) in books not only shorten the life of books, but worse, they even cause readers to have skin problems. Unsterilized books can become moldy on the inside and pose a danger to library staff and borrowers. The micro-organisms mainly collect in the parts that often touch each other (outer edge).

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Viruses are mainly spread in two ways:

- the moment we open the books, bacteria mixed in the dust are inhaled through the mouth and nose;
- we touch our nose or eyes after touching the pages of the borrowed books with our hands. Many people also have a habit of wetting their fingers with saliva when turning the pages, so sterilization of the outer edge is paramount.

Recently, the quarantine guideline was completely abandoned because its effectiveness proved to be difficult to prove. Libraries are somewhat relieved that they no longer have to perform this cumbersome procedure, but uncertainty about the contaminants remains. This is certainly not necessary with the SelfClean Book Sterilizer from Dialoc ID. Books are almost immediately available for safe loan to the next reader.

How does the book sterilizer work?

The Dialoc ID SelfClean Book Sterilizer has an ion plasma fan that gently blows the pages open to let UV-C light in. The UV light thus reaches the inside of books between the pages. In this way, both the outside and the inside can be disinfected. Meanwhile, dust, benzene, formaldehyde, ammonia and other foreign matter that the books may contain are absorbed by the filter. The internal air circulation also prevents a second contamination of the outside air.

UV radiation is divided into three types; UV-A, UV-B and UV-C with decreasing wavelengths and increased energy. The UV-C spectrum (185-280 nm) is used in the Dialoc ID SelfClean Book Sterilizer and is known as the germicidal spectrum. This high shortwave UV energy (254 nm) is absorbed by the cellular DNA. In particular, UV-C light damages the nucleic acid of micro-organisms by forming chemical compounds that prevent DNA from multiplying and the organism from reproducing. If the organism tries to multiply, it even dies. The effectiveness of UV-C light sterilization depends on the total energy applied, which is affected by the exposure time and distance from the light source. If the distance is fixed, the longer the exposure time, the better the effects of sterilization.

Tests have been conducted at an accredited testing agency to show that a sterilization time of 2 minutes can kill 99.6% of Covid-19 (Corona) bacteria. With a sterilization time of 30 seconds, this is already 93%. Sterilization time for different bacteria and viruses may vary slightly. Some bacteria and viruses can be sterilized in 1 minute, some can be killed in less than 30 seconds.

The sterilizer is not intended for old books, codicils, manuscripts, etc. It is not recommended to sterilize these documents with this method as they are too vulnerable to the internal lighting process. Many old books are known to be made of glass fibers and ferromagnetic inks that are much more sensitive to the action of ultraviolet light.

Specifications

Dimensions:	55x65x77cm (LxWxH)
Weight:	35 kg
Material:	stainless steel 304
Number of UV lamps:	3 pieces type G15T8
Wavelength:	254nm
Timer:	max. 9 min.
Noise level:	<50dB (at 1 meter)

