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Schwerin, 18th of Feb. 2020

Meiko Maschinenbau GmbH & Co. KG

Englerstr. 3

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Certificate

**on the effectiveness of the reprocessing of bedpans for human excretions in
bedpan washers**

Meiko TOPIC from Meiko

against corona viruses, especially against the new Coronavirus (2019nCoV)

Corona viruses belong to the group of enveloped viruses. They usually cause mild respiratory or intestinal infections in humans. The newly emerged strain 2019nCoV makes an exception in this point because it can also cause a life-threatening respiratory infection. In terms of its dangerousness, it roughly corresponds to the classic flu caused by the influenza A virus.

As an enveloped virus, however, the new pathogen is no more resistant to disinfectants or automated cleaning and disinfection processes than all other enveloped viruses. A special thermo resistance is not described for it, as well as for all other corona viruses. On the contrary, it can be assumed that corona viruses are already sensitive to temperatures from 60 °C to 70 °C.

The high efficacy of alkaline cleaners against enveloped viruses has been shown in numerous studies. This applies in particular to cleaners with a high fat-solving capacity and to hot alkaline cleaning solutions in the temperature range of 50 °C and higher.

The Meiko TOPIC cleaning and disinfection device is used to process bedpans. It allows the choice of different preparation programs and thus has a short program, a normal program and an intensive program.

The short program (for urine bottles) includes a cold water treatment, followed by a warm water rinsing step with multiple fresh hot water exposures at temperatures of at least 45 °C or higher (depending on the on-site hot water supply situation).

For warm water rinsing, either hot water alone or the alkaline cleaners, recommended by Meiko can be added (e.g. Doyen R100, mildly alkaline).

After cleaning a disinfection step is used in which steam of at least 93 °C is applied. The energy transfer to the wash ware can be chosen with A_0 values of 60 and more.

A rinse aid / softener must also be used in the process (Doyen SK22E / Doyen SK 33 E), which not only prevents the formation of lime residues in the machine but also hardness deposits on the wash ware and, due to its decomplexing properties, also has a destabilizing effect on viruses.

If, instead of the short program, the normal program (e.g. for bedpans) or the intensive program is chosen (for bedpans with heavy soiling, such as fat stools, etc.), the number of rinse cycles with cold water and hot water rinsing and therefore the mechanical influence of the cleaning process is increased only to achieve the required end result even in case of heavy soiling. The optional addition of detergents in the rinse cycle with hot water remains possible, as well as the selection of different amounts of energy (A_0) in the disinfection cycle of the short program.

Since the setting of the A_0 value is configured by the manufacturer according to the customer's request, and can therefore also be below or above the recommended value of A_0 600, the manufacturer's help must be used if necessary.

For the treatment of items to be washed (bedpans) contaminated with Corona virus 2019nCoV, the following program sequence should be selected for the Meiko TOPIC disinfection device based on the known properties of Corona viruses and the type of preparation procedure:

Use of the specified programs such as the short program, the normal program or the intensive program, but with strict adherence to the following program parameters:

**Obligatory dosage of the alkaline cleaner in the hot water rinse cycle,
mandatory dosage of the rinse aid / softener,
setting the disinfection procedure to an A_0 value of at least A_0 600**

A handwritten signature in blue ink that reads "F. v. Rheinbaben".

PD. Dr. Dr. F. v. Rheinbaben