

# Uniclean<sup>®</sup> ML

Multi Line



Large chamber cleaning and disinfection system

- ✓ for large-volume items
- ✓ Versatile use
- ✓ Instrument preparation option





## Protecting human health

MMM has been operating worldwide as one of the leading suppliers to the health service since 1954. Our portfolio of products and services, specialising in sterilization and disinfection systems for hospitals, scientific institutes, laboratories and the pharmaceutical industry has established MMM as a quality leader and innovator for the German and international market. MMM products are manufactured in our own modern production facilities, combining automated industrial production and our high quality skilled German workforce, with state of the art control and quality systems; we satisfy the high standards required by customers.

### ☐ MMM Group in health care – everything from a single source

The requirements for commercial, logistical and organisational processes of managing a hospital are becoming more and more complex, particularly because the tasks and solutions are always changing, our customers need supply partners who are reliable, competent and involved to manage the specific site conditions.

We consider ourselves as not just a supplier of high quality medical devices, but as a complete supplier of services and solutions that can make a commercial and medically feasible contribution to the wellbeing of patients in the hospital.

### ☐ MMM Group is more than a manufacturer – we implement holistic solutions

MMM offers a comprehensive range of expertise for all aspects of the CSSD. Our services cover the manufacture of our own products, detailed planning and consultation, software, installation, logistics and service, which includes the validation of all processes in the CSSD and right through to the project management of all construction works for the cleaning, disinfection and sterilization departments.



# Uniclean® ML

The versatile solution for large items

## Highlights

- ✓ Powerful cleaning and drying
- ✓ Low space requirements (width 2300 mm/height 2500 mm)
- ✓ Very user- and service-friendly
- ✓ High quality machine design



## Technical equipment

- With left and right arrangement of the chamber for a flexible and efficient use of space (e.g. when using two units)
- Modern and robust design ensures high availability and adherence to the highest safety standards
- Hygienic, easy-to-clean design of outside surfaces and the chamber
- Automatic sliding glass doors with a toothed belt drive
- PLC industrial controller from B&R in IP 54 control cabinet
- Smart HMI with 5.7" color screen
- PPV system for process parameter verification
- Hinged front panels with gas pressure springs for easy service access
- Highly efficient SECOspeed drying system
- SANIcirc cleaning system without flexible tubes
- With glass front panel and integrated touchscreen
- HEPA H13 filter
- All materials in contact with the media are made of stainless steel
- Electrical or steam heating of the device, as required
- Low machine height; all important components are positioned on the sides
- 2 dosing pumps
- Large number of pre-configured standard programs
- 3-color LED chamber lighting
- Pneumatically operated (fail-safe) valves only
- A0 value control or temperature holding time control, as required

## Options and accessories

- Two pre-heating tanks for cleaning and disinfection
- Recovery tank system
- Automatic tank cleaning
- Conductance measurement with 2 probes
- Differential pressure measurement, HEPA filter
- Waste water cooling
- Remote maintenance
- Instrument program
- Coupling for one or two instrument trolleys
- Exhaust air fan
- Additional dosing pumps
- Loading and unloading ramps
- A4 batch report printer
- ISA – Intelligent Service Advisor
- Energy manager
- Large assortment of loading trolleys for OT shoes, plastic crates, sterile containers and instruments

## Applications

- Sterile goods containers
- Plastic crates
- Wire mesh baskets
- OT shoes
- Bowls
- Kidney basins
- OT lamp handles
- Instruments
- Open shelf trolley
- Enclosed transport trolleys
- OT table overlays

## Technical specifications

Type	Effective chamber dimensions in mm (W x H x D)	Effective chamber volume in liters	External device dimensions in mm (W* x H x D)
1620	900 x 2000 x 1650	3500	2410 x 2500 x 2050
2220	900 x 2000 x 2230	4460	2300 x 2500 x 2630
3120	900 x 2000 x 3100	6200	2300 x 2500 x 3500

\* With electrically heated machines, the width is between 2500 and 3100 mm, depending on the installation situation and machine type.

# Your requirements – our passion

Development on the highest level

## Uniclean® ML

Components

### Automatic cleaning and disinfection

In a well-functioning CSSD, cleaning and disinfection is the pivotal element in the supply of clean and sterile instruments to the operating theatres. In a very short time, large quantities of medical products must be reliably cleaned, disinfected and moved to the clean side of the CSSD to be inspected and packed for sterilization.

Uniclean® ML stands for state-of-the-art technology, the best possible cleaning results and excellent user convenience when it comes to cleaning and disinfecting large-volume items in hospitals. The system's many loading options are a demonstration of its versatility: Transport trolleys, instrument containers, OT shoes, plastic containers, bowls, kidney basins. In addition, the Uniclean® ML can be prepared for the connection of one or two instrument trolleys for cleaning and disinfecting instruments. The machine operates in conformance with DIN EN ISO 15883.

MMM products are renowned for their reliability throughout their complete life cycle. Only top quality materials are used to manufacture MMM products using state of the art machinery, qualified staff and process-orientated quality assurance guarantees consistent high standards. Continuous product development and upgrade packages for older machines ensure MMM devices always meet the latest requirements.

### The MMM Smart HMI

Small, finely crafted, ergonomic and intuitive to operate

- The clearly structured menu navigation on the color touch display with unambiguous symbols provides for high operational reliability.
- Hygienically impeccable: The 5.7" display is seamlessly integrated in the glass panel and easy to clean.
- The large remaining time display enables optimal time management.

### Sophisticated design concepts

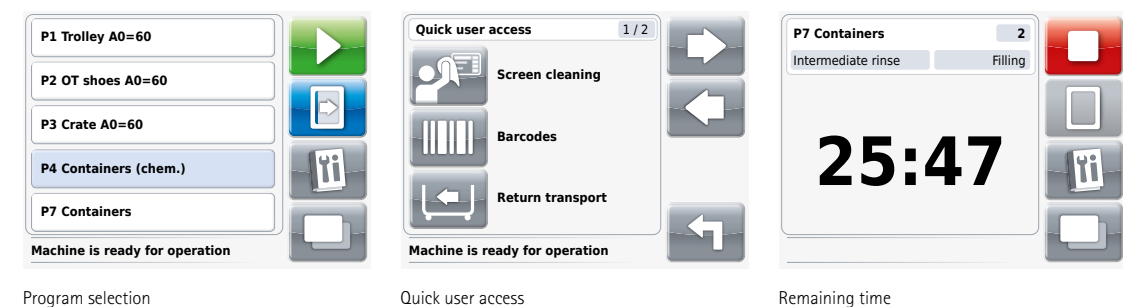
Modern automated industrial production together with our high quality skilled German workforce:

#### Tailored design

- The compact design is ideal for tight spaces.
- Very high flexibility for transport of goods into the facility.

#### Chamber and piping

- The chamber is manufactured from high-quality stainless steel.
- The SANIcirc piping is free of dead space and is routed in a hygienically flawless and self-draining manner.





## The controller

The controller controls the process sequence. The sensors continuously provide the controller with information about the actual state of the device (temperatures, pressures, dosing of the process chemicals, water level, etc.). The controller, in turn, controls the actuators such as valves, pumps and contactors in accordance with the target values set during commissioning. All control components are located in one control cabinet (protection class IP 54).

### The software – a clever solution

- The MMM software is validated as per DIN EN 62304 "Medical device software – Software life cycle processes".
- The sophisticated parameter structure enables a high degree of flexibility in the configuration of the machine. Up to 25 programs can be configured at the same time.
- If the system is not used for a longer period of time, an energy-saving idle mode is activated.
- Access to the parameter menu is password-protected.

### Precise process control

- The program sequence is controlled on a fully automatic basis. The drive elements are precisely controlled, and all measured values are monitored continuously.
- $A_0$  value calculation as per DIN EN ISO 15883.
- The disinfection process can be time or temperature controlled, with additional documentation of the  $A_0$  value.

### Double the safety with process parameter verification (PPV)

- The PPV system verifies and documents the most important process parameters from both the control and independent sensors. If the limit values are not met, exceeded or not maintained an alarm is triggered and the system is stopped. It is then impossible to open the clean side door as a full validated process has not been achieved.



The three-color LED chamber lighting indicates the current machine status, visible from afar.

## Straightforward process documentation

To verify successful cleaning and disinfection, the batch data is initially saved locally in the WD. The process data are transferred to a process documentation system such as MMM EcoSoft at the same time, if such a system is used. The process documentation contains all the relevant information required for standards-compliant reports. Pressure and temperature are also shown as a color-coded graph. For long-term archiving, the batch data can be transferred to an external server via the in-house network.

### Full data integrity

- Process log with plain text and color graph display.
- The batch log can be printed out using the integrated printer or an external DIN A4 color printer.
- Zero-voltage-resistant data storage in the controller
- Approx. 10,000 batches can be saved on the plug-in compact flash memory card.
- Optional: Network storage for back-up data archives.

We have developed a special software package to further process your batch data:

**SimServ** is used to save the batch data on an external computer as a file.

The data is then available to the **ChargenViewer** for various management tasks.

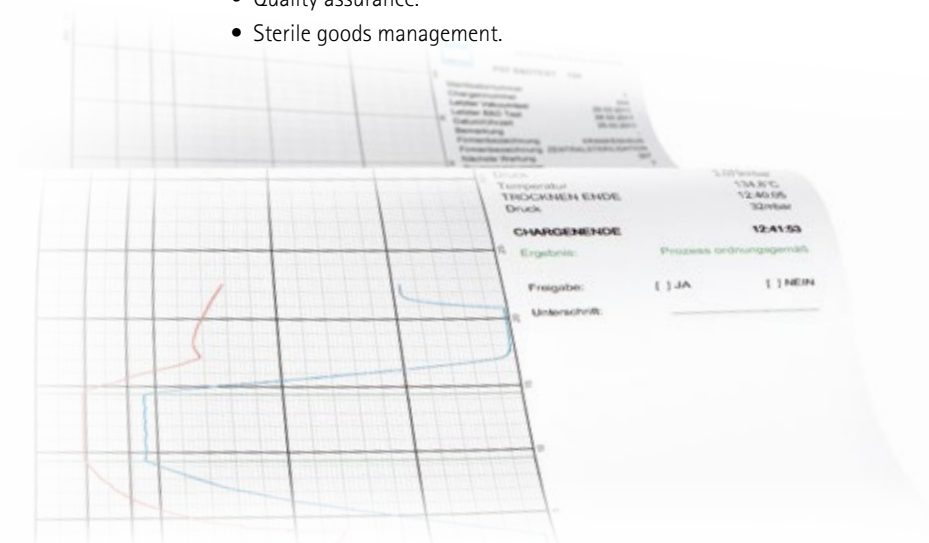
### Available at all times

- Long-term archiving of batch data as files.
- Can be reprinted at any time.
- Can be viewed and analyzed at a later time.
- Export to Excel.
- Can be saved as a PDF file if desired.

**EcoSoft** is a particularly easy-to-operate and intuitive documentation software that will help you structure the workflows of the entire preparation cycle in the CSSD.

### EcoSoft – tailored process documentation and sterile goods management

- Documentation of the entire sterile goods cycle in the CSSD.
- Set collation and management.
- Automated process documentation of all connected devices.
- Instrument management (sets or individual instruments).
- Quality assurance.
- Sterile goods management.



## □ Sustainable machine design

Uniclean® ML stands for state-of-the-art technology, the best possible cleaning results and excellent user convenience when it comes to cleaning and disinfecting large-volume items in hospitals.

### The best cleaning results

- Thorough wetting of the items being washed.
- A high degree of mechanical cleaning effectiveness is achieved even in hard-to-reach places.
- The generously dimensioned circulation pump ensures consistently high pressure and volume flow.

### Hygienically designed

- **SANicirc:** Self-draining pipe routing in the area with product contact. No residue and microbial contamination.
- No rubber: All connections are designed as rigid pipes.
- Full drainage of the nozzle system and chamber after every program step. No carryover of dirty water.
- Slanted chamber floor to enable remaining water to flow off easily.

### Fast drying

- The **SECOspeed** drying system consists of a powerful medium-pressure fan for air circulation, a perfectly dimensioned air heating register for fast heating of the air and a HEPA filter for filtering fresh air.
- Outstanding drying results in a very brief period of time due to the effective combination of fresh air and recirculating air. Energy saving recirculating air process for heating the drying air.

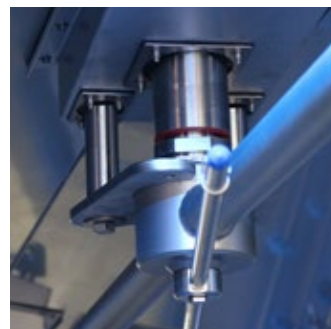
### Space- and process-optimized tank system for shorter batch times

- The optional tanks have two functions: pre-heating and pre-dosing of the process water, and storage of the returned process water.
- Reuse of the process water saves water, energy and process chemicals.

### Flexibility for everyday use

- Suitable for instrument preparation with a capacity of up to 60 DIN trays per batch.
- Suitable for chemo-thermal processes.

## □ Coupling for instrument trolleys



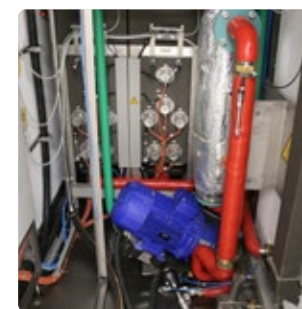
To be able to efficiently and reliably prepare surgical instruments in a large chamber cleaning and disinfection system, it is essential to be able to precisely and securely couple the water supply nozzle with the instrument trolley.

## High serviceability User-centered design

□ To guarantee a trouble-free process, the systems need to remain operational at all times. The serviceability of the system was taken into consideration during its design to ensure operators and service technicians have quick and easy access to all components. All important components are clearly arranged and easily accessible. This guarantees minimal downtimes and highest possible efficiency.

### Service-friendly

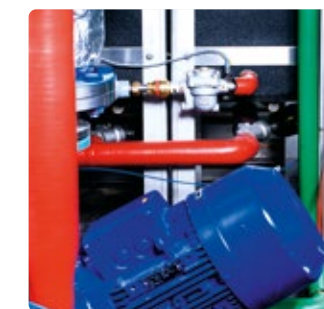
- Large filter surface: Even in the presence of excessive lint formation, the **Uniclean® ML** can still operate longer between fine filter cleanings.
- Simple cleaning of the fine filter: The filter is found in the chamber and can be removed and cleaned without tools by any trained operator.
- Most components can be accessed via the maintenance hatch on the side of the chamber. A few components are arranged above the chamber and are easily accessed by folding up the device cover.
- The modular machine components and the measurement probes with plug-in connectors are easy to exchange.
- All electrical components are conveniently located in one control cabinet (protection class IP 54).



Spacious maintenance area



Hinged chamber floor



Powerful circulation pump



## The loading trolleys

Modular, versatile and practical

The Uniclean ML is a multi-talented system. The many loading options offered by the Uniclean® ML demonstrate its versatility: Transport trolleys, instrument containers, OT shoes, plastic containers, bowls, kidney basins. In addition, the Uniclean® ML can be prepared for the connection of one or two instrument trolleys for cleaning and disinfecting instruments.

The MMM loading trolley and accessories range for the **Uniclean® ML** were developed in close co-operation with users in hospitals. This practicality is readily apparent. The result is a flexible range of loading trolleys with appropriate interchangeable modules for cleaning large-volume medical products right through to surgical instruments.

### The loading trolleys from MMM will impress with their:



- Modular solutions for ergonomic and safe handling of loads for all applications
- Stable tubular-frame construction
- Open design for perfect cleaning and drying
- Easy and secure adjustment of the loading levels
- Large CoolTouch handles
- Easy to push with no physical effort required
- Impact protection disks on all four sides of the trolley frame
- Self-draining layout of the water supply pipe of the instrument trolley
- Versatile accessories to suit a wide variety of loaded items, including mixed items
- 2 different trolley lengths are available: 1100 mm and 1500 mm – according to the chamber size

**Trolley material:** Stainless steel 1.4301 (AISI 304)

**Surface finish:** glass bead blasted

**Castors:** Polyamide (PA), hard, non-chalking, machine-proof, roller bearings, 2 swivel castors plus 2 swivel castors with locks

### The right solution for every requirement

A suitable loading trolley for every application: the loading trolleys for the Uniclean® ML are provided with all of the equipment needed to make it easier to correctly load containers, OT shoes and other utensils. This is important because optimal cleaning results can only be achieved if the goods to be cleaned are placed on the trolley correctly.

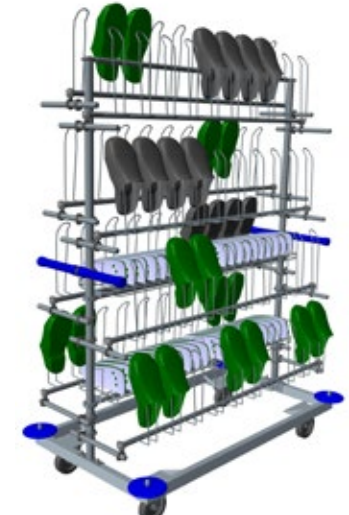
For details of our complete range of trolleys, please see our "Loading Trolleys & Accessories" brochure which is available separately.



Mixed load of sterile good containers with bowls and kidney basins



Load of wire mesh baskets



40 pairs of OT shoes with level for insoles



Load of 30 instrument trays



Mixed load with containers and lids, kidney basins, bowls, instrument trays



Mixed load with instrument trays, containers and lids



## Resource management

### Certified environmental management system

- ☐ The MMM sustainability concept protects the environment even in everyday business operations. All MMM devices are designed for low energy and water consumption and can be equipped with energy recovery systems. MMM has a certified environmental management system as per DIN EN ISO 14001 that not only covers our products but also encompasses the operative processes.

#### Intelligent water management

- Low water consumption, controlled via the **Uniclean® ML** controller – adapted to the items being treated and the process phase. Thus, for example, water consumption when cleaning containers with a simple surface is less than for an anesthesia set with many connections.

#### Reduced deionized water consumption

- In the **Uniclean® ML** with the optional deionized water recovery tank, the deionized disinfection water of the last rinse bath is stored and using for intermediate rinsing in the next program sequence. This saves time and energy as well as up to 20% of the deionized water compared to a device without a recovery tank.

#### Short batch times

- Thanks to the low water volume, the rinse bath heats up rapidly and the chamber can be filled and drained more quickly. At the same time, the consumption of cleaning chemicals is reduced. The deionized water pre-heating tank reduces batch times considerably.

#### Heat is energy

- The combination of fresh air and recirculating air drying ensures maximum heat usage in the cleaning chamber and utilizes the stored heat energy for optimal and fast drying.

#### Environment and material

- MMM products are environmentally friendly and recyclable: All components can be returned to the material cycle in recycled form.

## MMM customer service

### Efficient and reliable

- ☐ Our knowledgeable service organization is available to you around the clock, ensuring long-lasting, trouble-free operation of the installed systems. Thanks to our branches and representative offices optimally distributed worldwide, we are always nearby and can very quickly be on site in an emergency.

The sophisticated and innovative design of our systems and devices makes it possible in many cases to quickly rectify functional impairments with a remote diagnosis by qualified personnel. On the basis of professional maintenance planning, we guarantee you the highest degree of availability of your systems.

In addition to performing maintenance and repair, we also make sure that the installed systems are up-to-date. Tailored solutions for adaptation to changed situations, for optimization of consumable materials and for continuous adjustment to individual needs and legal requirements increase the service life and cost-effectiveness of the systems and secure your investment.

- Maintenance planning
- Inspection and service
- Repair
- 24-hour hotline
- Spare parts logistics – 24-hour service
- Upgrade service
- Process validation
- Training & further training

## Europe's market leader in process validation

MMM is your partner when you need to verify that your systems and processes are always consistent with the required specifications.

We offer a variety of packages for validation and preparatory measures such as calibration, adjustment and optimization of the processes and devices. Process validation by MMM is always in line with the current guidelines of DGKH, DGSV and AKI as well as in accordance with DIN EN ISO 15883 Part 1 and 2, if required. It's not for nothing that we are Europe's market leader, with approx. 2500 process validations per year.

#### Validation from a single source

- Cleaning and disinfection processes
- Steam sterilization processes
- Steam-formaldehyde sterilization processes
- Gas plasma sterilization processes
- Hot-sealing processes





### MMM Group

MMM has been operating worldwide as one of the leading system providers in the service of health since 1954. With a complete range of products and services relating to all aspects of cleaning, disinfection and sterilization systems for the areas of **Healthcare** and **Life Science**, MMM has positioned itself as a crucial quality and innovation driver in the German and international

market. Our products are individually adapted to the requirements of our customers all over the world. The high vertical range of manufacturing in our production plants ensures that we fulfill the strictest demands of quality in the medical technology sector. More than 1200 employees apply their expertise and dedication to the mission of the MMM Group: **Protecting human health.**



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