

Washer Thermodisinfecteur for hospital applications

MAT LD1000

COMMERCIAL DESCRIPTION – Ref. 94840 — 94840.2 — 94841 — 94841.2



INTRODUCTION

The MAT LD1000 appliance belongs to the new generation of MATACHANA washer thermodisinfecteur machines. It is specially designed for use in sterilization centrals as well as in a surgical block or other departments or care centres where the decontamination of materials is required. Its high capacity, flexibility in response to different types of load, quality and recording, guarantee the execution of optimal, reliable and safe processes.

Our MAT LD1000 model combines innovation, technology and ergonomics with the reliability, functionality and performance characteristic of MATACHANA equipment, being able to wash and disinfect complementary elements in up to 6 levels with a capacity of up to 18 DIN 1/1 baskets. It is available in versions with one or two automatic vertical sliding doors to the floor. The double door model ensures an effective barrier between the dirty side and the clean side, optimising the required hygiene levels and reducing the risk of hospital infections.

This equipment has been manufactured in accordance with European Union Directives and has therefore been constructed based on EN ISO 15883-1,2,5,6 requirements, including tests of capacity and cleaning effectiveness according to the SIS-TR 3:2001 test.



MAIN ADVANTAGES

- The MAT LD1000 washer thermodisinfector is a compact unit with external dimensions of just 820 x 936 x 1985 mm, with capacity for cleaning, disinfection and drying of surgical instruments, microsurgery instruments, anaesthesia equipment, large receptacles, containers, baby bottles, utensils, etc.
- High reprocessing capacity: simultaneous washing of material in up to 6 levels with capacity of up to 18 DIN baskets 1/1 per cycle.
- Washing chamber manufactured in **AISI 316L** quality stainless steel, with rounded edges to prevent the accumulation of dirt and to ensure cleanliness, cycle after cycle. Both hydraulic circuits, as well as filters and spray arms are also made of AISI 316L stainless steel.
- The equipment includes double LED lighting inside the chamber that ensures perfect viewing of the processes.
- External and front panels made of **AISI 304** quality stainless steel. Control panel in elegant black polycarbonate for protection, hygiene and easy cleaning of the fully integrated 7" high resolution touch screen. Upper access door to the control and maintenance unit made in backlit glass mounted on an AISI 304 stainless steel frame.
- Automatic sliding doors, with vertical downward movement, manufactured in double glass with HST treatment (*High Shock Thermic*). Activation of the movement by means of an electro mechanical actuator eliminates the need for an air compressor or an additional supply of compressed air.
- The 2-door versions incorporate a locking door system that prevents simultaneous opening.
- Ergonomic loading height of 750 mm for easy handling, even with the heaviest loads.

MODELS AVAILABLE

94840	MAT LD1000 - E1 washer thermodisinfector. An automatic sliding door to the floor. Electrical heating.
94840.2	MAT LD1000 - M1 washer thermodisinfector. An automatic sliding door to the floor. Mixed heating. ¹
94841	MAT LD1000 - E2 washer thermodisinfector. Two automatic sliding doors to the floor. Electrical heating.
94841.2	MAT LD1000 - M2 washer thermodisinfector. Two automatic sliding doors to the floor. Mixed heating. ¹

CHARACTERISTICS OF THE WASHING SYSTEM, HYDRAULIC CIRCUITS AND DRYING SYSTEM

- High performance recirculation pump with total water drainage between each phase of the cycle, avoiding the possibility of entrainment or the accumulation of waste between the different stages of progression of the cycle.
- The equipment performs **an automatic control** of the washing pressure to guarantee the optimal mechanical force of the water during the process.
- All internal pipes are made of stainless steel, with no dead angles, to prevent the accumulation of waste or water.
- With validation ports for thermometric tests, in accordance with EN ISO 15883-1,2.
- Thermo-disinfection is carried out following the guidelines of EN ISO 15883-1,2, based on a thermodynamic temperature of up to **93 °C** and reaching the required A₀ value.
- The standard configuration incorporates 2 chemical dosing pumps (detergent + drying aid) fitted with a high precision control system. This accuracy in the dosage is achieved thanks to the inclusion of independent flowmeters for each of the pumps. Chemical suction nozzles have individual level sensors that alert you to a low level of product in your container. Expandable up to 4 chemical pumps, all equipped with monitoring and control through flowmeters.
- Lower compartment in which it is possible to store the chemicals, with capacity of up to 4 x 5 litre bottles.
- The MAT LD1000 washer includes 2 sockets for the connection of cold water and demineralised water. Optionally, a third outlet can be added for decalcified hot water.

¹ The mixed heating allows you to select the water heating of the washer by means of electrical resistors or steam network.

- As an option, it is possible to include a mist condenser that will reduce the vapours and condensates that the equipment extracts. In addition, our MATACHANA Blucondenser ecological condensation system recovers the heat energy and water used during the steam condensation process, accumulating tempered water for the next washing cycle.
- High efficiency drying system. Thanks to its high-pressure turbine, the MAT LD1000 optimises the quality of the drying, significantly reducing the time required to achieve it.
- In order to guarantee the quality of the drying air generated by the equipment, the MAT LD1000 washer thermodisinfectant includes a pre-filter + HEPA filter H14, with an average life of 4000-5000 hours of operation. The equipment is able to detect the saturation of the filter, as well as blocked airflows, automatically stopping the process so as not to compromise its effectiveness and avoid incidents in the equipment.

CONTROL UNIT

- User friendly and ergonomic for users thanks to our MATACHANA EasyRUN user interface, common to all MATACHANA machines.
- The MAT LD1000 washer thermodisinfectant performs an exhaustive control of all parameters and processes performed. Its dual microprocessor ensures the cleaning, disinfection and drying of materials cycle after cycle.
- For communication with the user, the MAT LD1000 has a fully **integrated 7-inch multi-touch screen** in black polycarbonate. In it, the cycle parameters and the operation configuration are monitored, complete information on the progress of the cycle, as well as a real-time process evolution graph and thermodynamic value A_0 , in addition to date, time, wash cycle, phase, error messages, end of cycle, etc.
- The double-door units also include the same 7-inch high-resolution touch screen integrated on the unloading side.
- **With capacity for more than 40 different programs and an open and unlimited configuration structure that allows a high composition of personalised cycles, adapting it to all the needs that the health centre may require.**
- The excellent connectivity of the equipment, thanks to its integrated Ethernet socket as standard, allows direct connection to the computer via any web browser without the need for any additional software. Using this connection is possible, among other things, to check the state of the equipment in real time, to view the cycle history, for MATACHANA's official technical service to carry out remote assistance, etc.
- **Emergency pushbutton on both sides of the unit.**
- General switch on load side of washer.



OTHER IMPORTANT TECHNICAL ASPECTS

- Low consumption of energy, water and chemicals. Thanks to our compact design and the extensive engineering work carried out in the design of the washing circuits, we have minimised the water consumption required per phase to the extreme, automatically adapting it to the specific needs of the load depending on the washing complements used and the volume of the load.
By means of our innovative ECO KIT control system, we reduce the water consumption required for each phase to the essential minimum, adjusting it to the real needs of the load. This system incorporates control flowmeters integrated in the water inlets and a pressure sensor that detects when the washing circuit has the necessary amount of water for the process. This allows us not to always use the maximum amount of water indiscriminately, always reducing consumption to the necessary amount:
 - The fewer washing arms in the Rack or the smaller the amount of load that hinders the recirculation of water, the lower the amount of water required per phase.
 - The greater the number of washing arms, the need to wash cannulas or the greater the amount of load that hinders the recirculation of water, the greater the amount of water required per phase.

The reduction of water consumed per phase also has an impact on the optimisation of the washing cycle:

- Reducing chemical consumption: The chemical is dosed according to the dilution of ml per litre of water set by the chemical manufacturer. The lower the amount of water per phase, the lower the amount of chemical used in direct proportion. Reduction of cost per cycle.
- Reducing energy consumption: The greatest amount of energy consumed during the washing process is used in heating the water to reach the right temperatures in the washing and thermodisinfection phase. The smaller the quantity of water, the less energy is required to heat it. Reducing the cost per cycle.
- Reducing the total process time: A substantial part of the total time needed to guarantee the effectiveness and quality of the process is consumed in heating the water to reach the right temperatures in the washing and thermodisinfection phase. The smaller the quantity of water, the shorter the time required for heating. Increased productivity of the equipment.

For all these reasons, the MAT LD1000 washer thermodisinfectors is an environmentally sustainable equipment while reducing the economic costs per washing cycle.

- Low sound pressure <60.5 dB(A).
- Optional connection with integrated thermal printer and external documentation systems for complete documentation of processes.
- Thanks to the NetCom option, the MAT LD1000 washer is able to connect to any external traceability software.

MAINTENANCE

The equipment has been manufactured according to high quality standards that ensure reliability and optimum control of its efficiency, as well as quick and easy maintenance.

The design of the equipment and the choice of all components has been made under the premises:

- To increase the interval between preventive maintenance interventions.
- Quick and easy access to these components.

Its construction is practical and orderly. Maintenance access of the equipment is carried out only from the front zone. This allows the installation of several fully adjacent units, one next to the other, without the need for additional lateral access spaces. Substantially reducing the space required for these units in the automatic washing area.

OPTIONS

The MAT LD1000 washing unit has multiple options available to the user in order to adapt its functionality to the requirements of the facilities:

- BLUCONDENSER. Steam condenser with energy and water recovery systems.
- HIGH SPEED module.
- Integrated thermal printer.
- Conductivity sensor. This ensures excellent rinsing, cycle after cycle.
- Dosing pumps of additional chemicals.
- Third water connection.
- Differential pressure monitoring on HEPA drying filter.
- Monitoring of rotation of washing arms.
- Load recognition and automatic cycle start using RFID wireless technology.
- NetCom connection for external traceability systems.
- Acoustic signal.
- Drainage cooling.
- Drain pump



COMPLEMENTARY ELEMENTS

There is a wide range of accessories depending on the field of application:

- Multilevel rack for instrument baskets (4, 5 and 6 levels)
- Flexible racks with all levels and sprinklers easily removable, manually and without the need for tools (allowing us to have 1 to 5 levels of personalized washing in a single rack).
- Racks for microsurgery instruments.
- Racks for anaesthesia equipment.
- Racks for containers.
- Racks for Da Vinci arms.

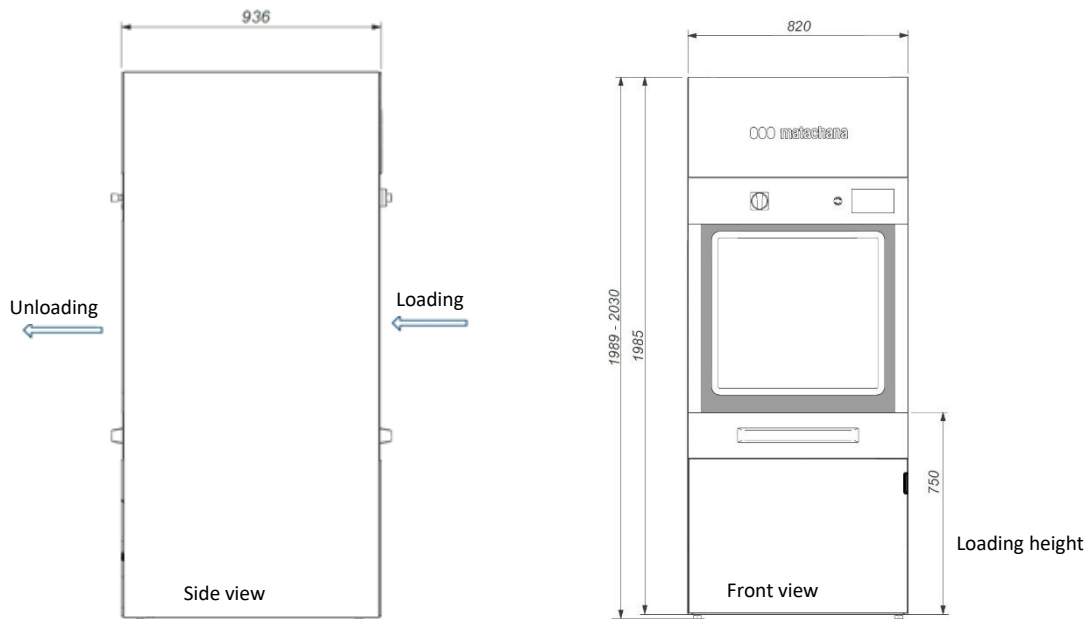


LOADING COMPLEMENTARY ELEMENTS

- Manual trolley for transport.
- Variable height motorized semi-automatic manual trolleys.
- Automatic loading and unloading systems. Our exclusive direct load system from the manual trolley reduces user effort.
- Robotised, automatic loading and unloading systems.

Contact MATACHANA if you require additional information on other possible equipment, including individualized solutions tailored to your needs.





TECHNICAL SPECIFICATIONS

Exterior dimensions width x deep x height	820 x 936 x 1985 mm
Chamber dimensions width x depth x height	705 x 850 x 690 mm
Usable chamber volume	413 litres
Total volume of chamber	492 litres
Number of washing levels	1-6
Capacity	18 DIN 1/1 baskets, 480 x 250 mm
Detergent dispenser and drying optimizer	Standard Optional: 2 additional dosing pumps
Touch screen	Standard
Drying module	Standard
Steam condenser	Optional
Printer	Optional
Sealing level	IP 20
Noise level	<60.5 dB(A)
Electr. connection power	25 kWh
Electrical supply	3 ~ x 200-480V + N + PE, 50/60Hz
Temperature emission: Without drying / With drying	0.76 kW / 0.92 kW
Drying air filtration	Class H14 according to DS EN 1822
Drain	Ø50 mm
Standard cycle time	45 minutes including drying time
Water consumption per phase	25 litres/phase
Water supply pressure	200-800 kPa
Water connection 1	Cold water: ¾", 5-30 °C, 0-30 °dH
Water connection 1	Demineralised water: ¾", 5-70 °C, conductivity 0-200 µS
Water connection 3	Optional: Soft hot water: ¾", 30 - 70 °C, 0-3 °dH
Net weight	340 kg
Transportation	-20 °C - 70 °C ≤ 80% Relative humidity
Storage	-20 °C - 70 °C ≤ 80% Relative humidity
Operating environment	Ambient temperature and humidity: 5 °C - 40 °C, ≤ 80% relative humidity for temperatures up to 31 °C decreasing linearly up to 50% a 40 °C.