

MACS M300

# **MACS 300**

Conquering the challenges of hazardous waste.

**MACS autoclaves** provide an outstanding economic solution by efficiently neutralizing germs, viruses, and bacteria on-site, significantly reducing hazardous waste transport costs and related CO<sub>2</sub> emissions. The system also effectively prevents cross-contamination and enables the efficient treatment of liquids and food. These benefits support a circular economy and promote sustainable resource utilization.

MEETS ROBERT KOCH INSTITUTE REQUIREMENTS

**Volume filling hopper:** 350 liters

Process capacity per cycle\*: 300 liters / 30-90 kg (density 0.1-0.3 kg/l)

Height/ width/ depth: 2.850 / 2.800 / 1.850 mm

Power consumption: Unit-average 25 kW 3 phase, 400 V, 50 Hz-60 Hz



Effectiveness

Achieves up to 97 % waste volume reduction. The best sterilisation to energy consumption ratio in its class.



Usability

Ergonomic and safe, standard utility connections, remote support capabilities.



#### Sustainability

Through its chemicalfree operation, energy efficiency, volume reduction, emission-free performance.



#### Reliability

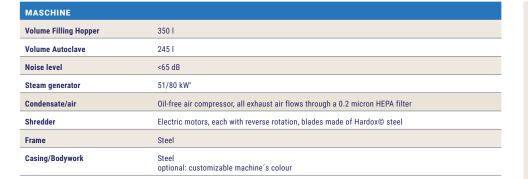
Consistent operation, security during power outages, independent from external services.



#### **Financial benefits**

Rapid installation and setup, reduction of hazardous waste handling fees, low lifetime operating costs.

## MACS 300 KEY DATA



PROCESS	
Process capacity per cycle	300 l / 30-90 kg (density 0,1-0,3 kg/l)
Process	Pre-vacuum plus plateau phase 10 alternatively 20 mins., temp. 136°C, pressure up to 4,5 bar
Process capacity/24 h (18 cycles, as theoretical maximum)	5.400 l / 1.620 kg
Processtime/Cycle	Standard 60 min
Shredding time	6-10 minutes depending on the waste composition
<b>Biological inactivation</b>	SAL=10 <sup>-24</sup> standard program, SAL=10 <sup>-48</sup> (20 minutes program)
Waste reduction	Up to 97% on volume, depending on type of waste and waste density

LIFE CYCLE ASSESSMENT	
Volume reduction potential/year**	178.704
CO <sub>2</sub> reduction potential/600km	7.506 t
CO <sub>2</sub> Emissions/Year	Zero

DIMENSIONS*	
Height/ width/ depth (mm):	2.850 / 2.800 / 1.850
Height machine opened:	3.450 mm
Weight net:	4.400 kg

CONNECTIONS	
Water inlet	3/4
Water outlet	2"
Water quality/water pressure	Potable water, min 4.5 bar (booster pump optional)
Power	3 phase, 400 V, 50 Hz-60 Hz
LAN/WLAN	Connection to local network possible

CONSUMPTION	
Water consumption	Up to 180 liters/cycle
Power consumption	Unit-average 25 kW, peak 35 kW

#### **DOCUMENTATION (INTEGRATED ON BOARD PRINTER)**

Pressure in bar, temperature, time, cycle number, every minute during plateau phase

USB Data pass, step documentation on SD Card, connection to local network possible (LAN/WLAN)

LOCATION	
Space requirement	Ca. 29 m². Mindestabstand zur Wand: 0,5 m - Türseite - min 1,20 m
Ventilation	6 air changes per hour recomended
Equipment load on the floor	Approx. 882 kg/m2

May change due to design changes or customer requirements.

\*\* Calculated on the MACS Liquid Program.

### Machine Auto Cutting Sterili:

#### **SAFETY- AND EMERGENCY FEA-**TURES

- > Automatic leak test before a cycle starts, will not start if leak is discovered
- > Fast stop and emergency program in case of process is interrupted during the cycle period
- > Sterilization with hot steam is guaranteed every time before the lid is opened
- > Gaseous discharges are filtered with a 0,2 µ microbiological filtering system integrated water softener and steam generator
- > Shredder and its parts are sterilized with saturated steam every cycle
- > Programmable daily cleaning cycles
- > Liquids are only released into the sewer after sterilization and confirmation that the cycle performed correctly. Cycle continues where it stopped
- > Technicians don't need an education background

#### **PROCESSABLE TYPES OF WASTE**

> sharps (WHO-sharps)

- > metallic packing, but no pressure containers VOC's
- > blood bags and blood preserves (WHO-pathological waste)
- > VOC's Volatile and semi-volatile organic compounds, chemotherapeutic wastes and radiological wastes should not be treated in a MACS
- > wastes whose collection and disposal are subject to special requirements in order to prevent infection (i.e. dressings, plaster casts, linen, disposable clothing, diapers (WHO non-risk or "general" health-care waste)

#### MACS®

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