



Washing, sterilization and decontamination solutions for the Life Science industry

Miele

Group
Member

Contamination control solutions for the global Life Science industry

Located in modern factories near Venice in Italy, Steelco Group is a major global supplier of infection/contamination control equipment and solutions for the healthcare, laboratory, biomedical and pharmaceutical sectors. Steelco's success is demonstrated by its strong growth, becoming the partner of choice for many of the world's leading companies who appreciate the company's:

Experience and knowledge

- Strong track record of establishing long term global partnerships.
- Network of factory trained agencies in over 100 countries worldwide.
- Integrated in-house operations from incoming raw materials to installation, validation and technical support.
- Fully certified quality systems with deep knowledge of manufacturing standards.

Extensive product range

- Innovative washing equipment, customizing loading racks to customer needs.
- Diversified sterilization range.
- Automation systems to maximize productivity and safety.
- Environmental control systems.

Flexible solutions

- Ability to meet the most challenging processing needs.
- Only using the best proven and ready available "Non-Proprietary" components such as control systems and valves to reduce running costs and down time.

Quality engineering process

- Technical consulting, design, engineering, project management, as well as commissioning and qualification services of our equipment is offered, with customers appreciating the cost effective high performance solutions offered to resolve complex washing and sterilization challenges.
- Customers are always welcome to visit Steelco factories to see design and manufacturing methods and audit our processes.



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The most comprehensive range to meet diverse customer needs

- Cabinet washers
- Cage and rack washers
- Automated tunnel washer
- Feeding bottles treatments
- Saturated steam sterilizer
- Decontamination lock



AC 1200/1300/1400

Cabinet Cage and Bottle Washers



AC 1200

Camber volume:

~780 lt / 27.50 cu ft

Overall Dimensions WxDxH

Single Door Version

1200 x 1000 x 1900 mm

47.24" x 39.37" x 74.80"

Double Door Version

1245 x 1030 x 1900 mm

49.02" x 40.55" x 74.80"

AC 1300

Camber volume:

~1275 lt / 45 cu ft

Overall Dimensions WxDxH

Single Door Version

1970 x 830 x 1900 mm

77.56" x 32.68" x 74.80"

Double Door Version

2015 x 860 x 1900 mm

79.33" x 33.86" x 74.80"

AC 1400

Camber volume:

~1575 lt / 55.60 cu ft

Overall Dimensions WxDxH

Single Door Version

1970 x 1050 x 1900 mm

77.56" x 41.34" x 74.80"

Double Door Version

2015 x 1080 x 1900 mm

79.33" x 42.52" x 74.80"

Steelco cabinet washers are able to wash all types of animal cages, feeding bottles or aquatic tanks. Highest flexibility is granted by the compact design, which assures low cycle costs by reduced consumption of water and energy. The three models are available in single or double door version and share common technical features.

The devices offer the highest levels of cleaning efficacy, final rinse temperature is guaranteed to reach 85°C/185°F, water is sprayed through an independent rinsing circuit.

Key Features:

- + Steam or electrical heated
- + Chamber made of 316L stainless steel
- + Drop down/vertical sliding loading door with inspection window
- + Separate washing and rinsing circuits
- + Rotating spray arms on three-level: top, middle, and bottom
- + Up to three chemical dosing pumps
- + Micro-processor controller with LCD display





Optimal cleaning performance

The washing system, operating with independent washing and rinsing hydraulic circuits, features three-level rotating spray arms positioned on the top, middle, and bottom levels of the washing chamber.



Smart filtering system

Steelco protects your equipment's life cycle and guarantees patient safety to the user: an innovative multistage water filtering system combined with a self-cleaning filter for recirculation of the washing water.



Acquatic tanks processing kit

Specific kit for the reprocessing of aquatic tanks used in research facilities, including three chemical dosage pumps, upgrade to washing circuit, flow meters, and a conductivity probe.



Easy maintenance and access to chemicals

The electric control panel is installed on sliding rails for easy maintenance. Frontal access to chemical storage up to two tanks of 10 Lt / 2.64 Gal US, equipped with level control sensors. heating side tank.



AC 1500

The ultimate generation of cage and bottle washer



Camber volume:
~1220 lt / 43 cu ft

Overall Dimensions WxDxH

Single Door Version
2050 x 920 x 2050 mm
80.71" x 36.22" x 80.71"

Double Door Version
2050 x 965 x 2050 mm
80.71" x 38" x 80.71"

Key Features:

- + Steam or electric heating
- + Automatic vertical sliding door made of double HST tempered glass
- + Double door pass-through available
- + Chamber and doors entirely made of stainless steel AISI 316L
- + Oscillating spray arms positioned on the top, middle and bottom levels of the washing chamber
- + 1 chemical dosing pump as standard

Up to 320 mice cages per hour!

Steelco AC 1500 cabinet washer is the perfect solution for your small-medium facility needs or the ideal backup unit for your large vivarium and laboratories.

AC 1500 features an automatic vertical space-saving sliding up door made of double HST tempered glass, granting total visual monitoring of the process.

Available as a single door or double door version, the device offers the highest levels of cleaning efficacy, final rinse temperature is guaranteed to reach 85°C/185°F, water is sprayed through an independent rinsing circuit.

- + Two levels loading trays that slide on rollers for a convenient loading/unloading
- + An adjustable inclination system with three different possible angles for optimized load presentation
- + Detergent cabinet with capacity of up to four 20 lt / 5,28 US gal containers
- + Tele-service and tablet connectivity ready





Optimal cleaning performance

The washing system, operating with independent washing and rinsing hydraulic circuits, features three-level rotating spray arms positioned on the top, middle, and bottom levels of the washing chamber.



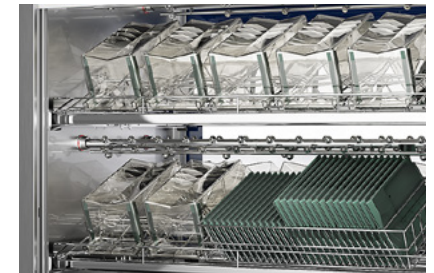
Innovative Water Filtering

Steelco protects your equipment's life cycle and guarantees patient safety: an innovative three level multi filtration system. The easy to reach extra fine filter, placed in the inlet of the wash tank, is a back flush self cleaning filter for the re-circulating washing water that traps particles larger than 0,5mm (0.02").



Acquatic tanks processing kit

Specific kit for the reprocessing of aquatic tanks used in research facilities, including three chemical dosage pumps, upgrade to washing circuit, flow meters, and a conductivity probe.



Advance control system

Industrial PLC with Touch Screen HMI and USB port, tele-service and tablet connectivity ready. Morning self-starts to warm up the water at a set time and day. Complete indication of machine functioning: cycle phase, time, temperature, chemical dosing, water quantity, utilities consumption and drying.



AC 7500/8500

Cage and Rack Washers



AC 7500

Stainless steel with window or full glass **hinged door**.

Door Dimension WxH
1170 x 2150 mm / 46" x 84.6"

Chamber Depth
2300 mm / 90"

Pit depth: 100 mm / 3.9" or 150 mm / 5.9" according to machine configuration
Overall dimensions may vary according to machine configuration and customer requirements.
Custom dimensions available upon request.

AC 8500

Stainless steel with window or full glass **sliding door**.

Door Dimension WxH
1170 x 2150 mm / 46" x 84.6"

Chamber Depth
2300 mm / 90"

Up to 1000 mice cages per hour!

The Steelco AC 7500 and AC 8500 series cage and rack washers are **heavy duty, large capacity, hydro-spray washers** specifically designed to support the throughput of medium and large size facilities.

The wide range of solutions available matches any load capacity, dimension and layout configuration need: pit mounted or floor loaded, single or double door, hinged or horizontal sliding door (left or right) and technical area can be right, left or shared.

The hydraulic circuit can be designed with a single process circuit for recirculated wash and rinse phases or with a full wash and rinse circuit separation. Multiple oscillating spray arms guarantee complete and continuous coverage of the load and the chamber providing excellent wash results in a short cycle time.

Running cost saving of **up to 95%** compare to conventional design

 **75% Time** Saving

 **95% Water** Saving

 **95% Energy** Saving

Key Features:

- + High productivity
- + Flexibility in cycle setting
- + Low water and energy consumption
- + Chamber made of 316L stainless steel
- + Pneumatically driven oscillating spraying arms
- + Tool-free inline self-cleaning filter
- + Dedicated IVC-Rack wash cycle
- + Separated washing and rinsing circuits
- + Steam or electric
- + Industrial PLC with Touch Screen HMI and USB port
- + Double door pass-through conguration available
- + Manifold system for trolley docking
- + Automated loading/unloading systems available
- + Aquatic tank cycle option



Hygienic Design

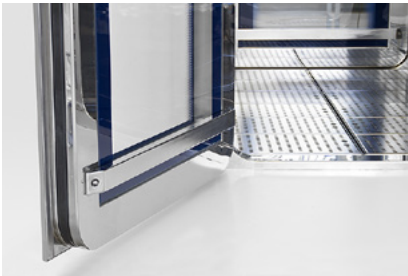
High-quality AISI 316 L chamber and doors combined with AISI 304 external body for long-term reliability and maximum cleanliness.

AISI 316 L stainless steel spray nozzles are installed on multiple horizontally mounted oscillating pipes on the two sides of the wash chamber to grant full washing chamber/load coverage.



Flexible Solutions

The wide range of solutions available matches any load capacity, dimension, and layout configuration need. Maintenance access to all components can be done from the front and rear sides of the device.



Pit Reduced Down to 100mm/4”

The Series has been designed for installation with just 100mm / 4” pit depth. Steelco is always available to provide custom chamber size to fit existing pit, allowing direct floor loading of large, heavy, or bulky items. Where pit mounting is not possible, the machine may be floor mounted with a loading ramp.



Advance Control System

Industrial PLC with Touch Screen HMI and USB port, tele-service and tablet connectivity ready. Complete indication of machine functioning: cycle phase, time, temperature, chemical dosing, water quantity, utilities consumption and drying. USB port for historical cycle data download and software upgrades.



Complete Washing Traceability

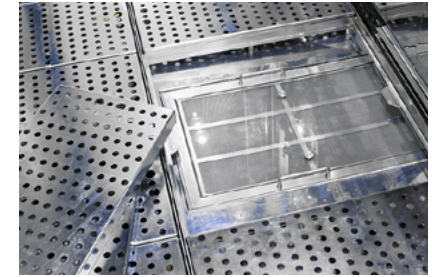
Full cycle data traceability can be printed by the optional built-in thermal printer. SteelcoData View software is designed to collect and record data from Steelco devices. Information collected in real-time is traced and efficiently visualized for device monitoring and data management.





Innovative Water Filtering

The Series is equipped with a multi filtration system made up of 3 different levels; the first two filter stages in the sump and the final one – inline self-cleaning filter – within the water recirculation circuit. The filtration system captures residue during the re-circulation of the wash water and protect recirculation pump from debris with pre- filter and flush self-cleaning filter. Filters can be easily removed for cleaning.



Decontamination Options

Due to its air-tight construction, the unit can be used to decontaminate heat-sensitive load using Hydrogen Peroxide – H₂O₂ or Chlorine Dioxide. The vapor-Phase Hydrogen Peroxide generator can be onboard mounted and fully integrated into the technical area of the washer. As an alternative, the washer can be connected to an external generator in order to run a decontamination cycle.



NHP Option

Designed to support the throughput of large animal cages and racks in medium and large-size facilities. Equipped as standard with three preheating water tanks and two dosing pumps resulting in great flexibility in cycle setting, fitted with inspection window in the door's inner side protected from the load.



Loading/Unloading Solutions

Tailor-made presentation racks for cages and bottles or automatic loading solutions to maximize efficiency and decrease work-related injuries.



AC 3500

Automated Tunnel Washer



Up to 750 cages per hour!

AC 3500 tunnel washer is designed to clean, sanitize and dry cages and utensils used in animal research laboratories. Steelco tunnel washer assures higher throughput, effective waste separation, and water and energy conservation. Each tunnel chamber is provided with a hinged glass door for visual inspection.

The combination of high pressure and flow rate ensures excellent washing and rinsing performance, with a productivity of up to 750 cages per hour.

To support the growing demand for a compact system for the automatized handling of cages, the system can be integrated with robot technology for loading and unloading procedures.

The system is composed of modules with dedicated functions:

- Loading
- Pre-wash
- Acid/Alkaline wash
- Rinse and final rinse
- Drying - Standard or Long
- Unloading

All the modules are available in the 900mm / 36, 1100mm / 44, and 1200mm / 48" transport belt width

Modular system

It's possible to configure the tunnel washer by combining the following modules:

	Loading	Pre-wash	Washing	Rinse	Standard Drying	Long Drying	Unloading	Total length
AC 3500/A	•		•	•			•	4500 mm 177.1"
AC 3500/B	•		•	•	•		•	6000 mm 236.2"
AC 3500/C	•		•	•		•	•	7000 mm 275.6"
AC 3500/D	•	•	•	•	•		•	7500 mm 295.3"
AC 3500/E	•	•	•	•		•	•	8500 mm 334.6"



Smart Water Filtering System

Clogged filters are one of the main issues facing operators when processing cages. Steelco has developed a system for fast and easy access to filters for their maintenance. The main filter in the prewash chamber is flushed with flowing water that helps to keep its surface clean.



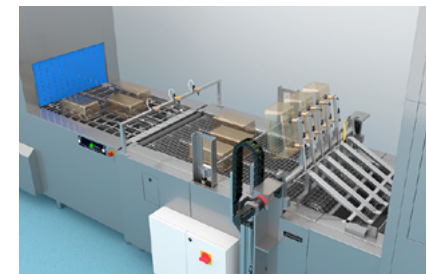
Water Saving Features

AC 3500 has been developed with water consumption reduction in mind. To that aim, the warm and clean water used in the final rinse is then recovered in the wash or pre-wash phase depending on which configuration and modules have been chosen.



Automatic in Line Cage Inverter and Bedding Dispenser

The Steelco automatic inline bedding dispenser is a unit dedicated to accurate dispensing of any kind of conveyed free flow bedding that can be positioned in line on the unloading side of a cage tunnel washer. Bedding can be fed by a centralized vacuum system or by an on-board loading funnel.



Key Features:

- + High productivity - up to 750 cages / hour
- + Step or continuous operation versions
- + Separated washing and rinsing circuits
- + Dedicated water jets for high temperature final rinse
- + Visual inspection of each chamber
- + Suitable for integration with robotic technology
- + Water filtering system with easy maintenance

Mito FBS/Mito 2B

Semiautomatic Feeding Bottles Washer



MITO FBS

Semiautomatic feeding bottle washer with integrated filling system

1x18 bottle crate per cycle

External dimensions WxDxH*

650 x 700 x 1465 mm
25.59" x 27.56" x 57.68"

*Hood open: 1865 mm / 73.43"



MITO 2B

Semiautomatic feeding bottles washer

2x18 bottle crates per cycle

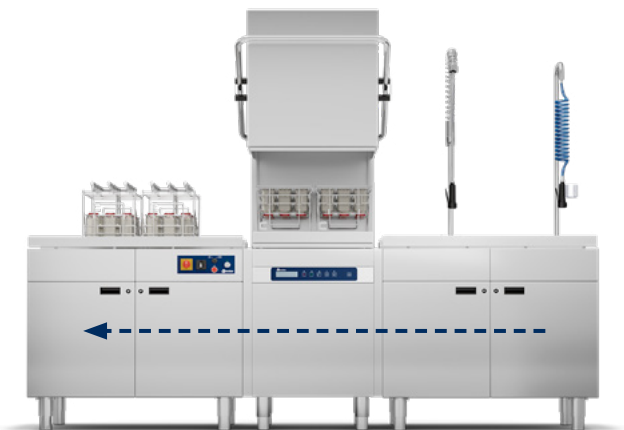
External dimensions WxDxH*

650 x 700 x 1465 mm
25.59" x 27.56" x 57.68"

*Hood open: 1865 mm / 73.43"

Key Features:

- + LCD Display control panel, with up to 40 programs capacity
- + Independent washing and rinsing system
- + Automatic detergent dosing
- + Full bottle coverage with individual nozzles
- + Separate PT1000 temperature probes and water level sensor
- + Easy access to the water filtration system
- + Drinking water acidification unit option



Typical "in line" configuration:

- + Manual de-capper
- + Ultrasonic bath for cap treatment
- + MITO 2B
- + Filling module*

*Dripping Station available for MITO FBS

Mito FB Combi

The Ultimate Approach to Feeding Bottles treatment

Up to 1440 bottles and caps per hour!

MITO FB COMBI offers an integrated and flexible solution to support the increasing demand for compact systems to fully automatic handling of bottles and caps.

MITO FB COMBI is an all-in-one solution for decapping, emptying, washing, sanitization, filling and recapping in less than 4 m² footprint. This versatile device is compatible with any model of caps and bottles of the different brands available on the market.

High-quality stainless steel 316L chambers, sump and pre-heating tanks ensure long-term reliability and optimal cleanliness.

All in One Solution

Five different phases are organically handled by the same automated system:

Automatic loading table – Loading table compatible with automatic or robotic loading systems.

Decapping and emptying – The caps of the bottles are removed and placed on the dedicated washing line. The remaining water in the bottles is automatically emptied.

Washing phase – Bottles and caps are washed separately in interlocked chambers.

Sanitization phase – Sanitization is performed by rinsing with individual nozzles for bottle and caps.

Filling phase – Bottle filling automatically starts once the crate is correctly positioned.

Recapping phase – At the end of the process, the bottles are automatically capped with the same initials caps.



Overall dimension WxDxH:

3395 x 1165 x 2490 mm
133.66" x 45.87" x 98.03"

Key Features:

- + Compact solution: less than 4 m² footprint
- + Independent washing and rinsing systems avoid cross-contamination
- + Compatible with robotic and loading and unloading systems
- + Customized Crates and Trolleys
- + Individual nozzles guarantee perfect cleaning of the outer and inner surfaces of the bottles
- + Suitable for in line and conventional barrier pass-through applications
- + Drinking water acidification unit option available

VS L series

Saturated steam sterilizer for any size of facility



VS L - Medium and Bulk capacity

Automatic horizontal sliding door or manual hinged door

Up to 14 standard chamber sizes with a **chamber volume** from 600 to 9070 litres
21,19 to 320 cu ft

The overall dimensions may vary according to machine configuration and customer's requirements

Key Features:

- + AISI 316L stainless steel chamber with high efficiency heat transfer full jacket system for even heat distribution
- + Doors internally made of stainless steel AISI 316L with no welding
- + Heat insulation with durable reusable cover for fast service maintenance at a lower cost
- + ECO cool down water saving system included as standard
- + Vacuum pump or water ejector
- + Load control probe included as standard
- + Colour touch screen HMI with multi level user access system
- + Built-in printer for process recording
- + Non proprietary widely available durable spare parts
- + Pressure vessel and relief valves are PED or ASME marked or according to the directives of the country of destination.

Up to 14 standard chamber sizes

Steelco steam sterilizers VS L series are designed for laboratory applications including research laboratories, bio-containment and animal care facilities.

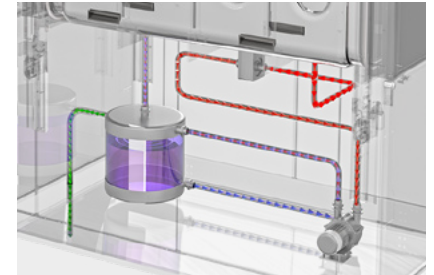
VS L bulk sterilizers are engineered to offer best in class solutions for the reduction of energy and water consumption to give users lowest operating costs per load, **ECO water saving packages** reduce water consumption to nearly zero depending on chosen model and options.

Sterilizers are available in single or double door configurations with manual hinged (available for some models only) or automatic horizontal sliding.



Advanced Eco Option

Steelco's range of high-end solutions to save water and energy: our sterilizers are engineered to offer best-in-class technologies providing unrivaled levels of efficiency for the reduction of energy and water consumption, giving users the lowest operating costs per load, assisting our customers in their sustainability goals.



Flexible Configuration

Single and double door pass through, manual hinged or automatic space-saving sliding door. The electrical cabinet can be integrated within the skid of the unit or remotely installed. The technical area can be on the right or left side; alternatively, it can be shared in the case of "inline" installation of a pair of machines.



Effluent Decontamination Feature

This feature is used for processing contaminated items like biohazardous laboratory waste (BSL-3 and BSL-4). To prevent harmful pathogens and viruses from exiting the sterilization chamber during the exhaust and vacuum phases, the condensate produced during the processing cycle is decontaminated before discharge to the drain.



Steelco Barrier Solutions

In BSL laboratory applications steam sterilizers play a key role as part of the building containment system. Double door sterilizers must be sealed to the wall to form a cross contamination barrier. Steelco offers different biocontainment barrier solutions:

- Air differential seal
- Bioseal



Decontamination lock

Multiple decontamination method chamber



Usable Dimension

Door: 1170 x 2150 mm / 46" x 89"

Chamber: Depth 2300 mm / 90"

Key Features:

- + Chamber completely made of corrosion resistant stainless steel AISI 316L
- + Suitable for any type of existing Vapor Hydrogen Peroxide Generator
- + Industrial PLC with Touch Screen HMI and USB port
- + Changing station or IVC air handling units can be power supply during the cycle thanks to the socket installed in chamber
- + Access doors equipped with two independent integral inflatable gaskets, with two separately controlled independent gaskets

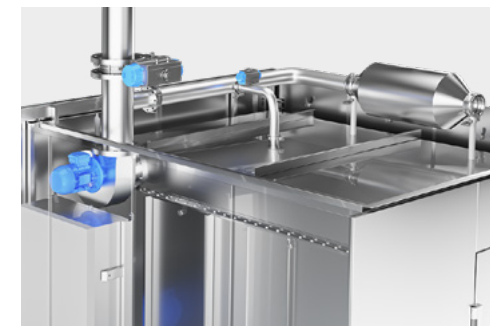
Steelco Decontamination Lock provides a comprehensive, validated solution for the decontamination of heat-sensitive equipment such as electronic devices to be introduced into a facility. Available as single door or double door pass-through versions, both in a full glass or stainless steel door version with glass window.

To perform a decontamination cycle, the unit can be provided with an onboard hydrogen peroxide vapor generator or can be connected to an external generator. As an alternative to the H₂O₂, Steelco Decontamination Lock can be connected to a chlorine dioxide generator.



On Board H₂O₂ Generator

Steelco D-PRO is a Hydrogen Peroxide dosing and vapor generator system fully integrated into the technical area sharing the same automation system (PLC and HMI). Easy accessible from loading side.



Fast and Safe Aeration Phase

Once the biodecontamination process is complete, to reduce the concentration of H₂O₂ below the permitted set point, a fast aeration phase is performed by injection of fresh filtered air into chamber, piping and on board generator.

Maximized performance with Steelco's experts

Comprehensive project management

Steelco offers complete "turnkey" solutions for washing and sterilization processes in the Life Science sector, with the ability to undertake all stages of a project from concept to delivering solutions that exceed customer expectations.

A comprehensive range of services to ensure the success of projects at each important step including:

- Process and workflow design
- Process equipment design and manufacture
- Automation systems
- Installation and commissioning
- Integration with corporate IT systems
- Validation and documentation
- Periodic validation and re-qualification as required

Service and preventative maintenance

Preventing equipment failure can help users avoid unnecessary production losses as well as health and safety violations. Steelco's Preventive Maintenance services provide greater operational control to users and help prevent known problems in the future:

- Fully comprehensive and preventative maintenance contracts
- Spare parts supply and first line service training

Customer service excellence is Steelco Group's commitment to our clients and a cornerstone of our success with emergency service support available, if needed, 24 hours, 7 days a week.

Quality system certifications

In addition to having a certified Quality System as per ISO 9001 (and ISO 13485 for Medical Division), our products are subject to rigorous quality control systems and inspection.

This coupled with continuously training our technically specialized personnel ensures you receive best in class product solutions and support.



Miele Group
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Customization. Innovation. Excellence.

STEELCO - Miele Group Member

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