Steelco

LC Series

Cart washer disinfectors for transfer trolleys, sterile containers and bulky items

Miele Group Member

Customization.
Innovation.
Excellence.

Driven by customer needs

Steelco is a leading infection control solution provider, supplying the healthcare, laboratory research and pharma sectors. Active in over 100 countries, Steelco has equipped numerous world renowned hospitals and counts among its customers household names in the laboratory, pharmaceutical and industrial sectors.

Driven by customer feedback, Steelco develops, manufactures and supplies solutions that maximize infection control, safety, optimize processes and minimize costs. Already a leader in innovation in areas such as automation, the integration within the Miele organization has provided additional boost in technological development.

Steelco provides technical service and user training courses at the Steelco Academy as well as at customer sites.
Our optional remote diagnostics capabilities and worldwide team of factory trained engineers ensure that you receive the service support you need to cost effectively maximize the uptime of your equipment.

Steelco

Miele Group Member

Steelco LC Series
Cart washer disinfectors

Steelco has developed this range of trolley washers as a perfect solution for medium to large central sterilization supply departments as well as for the reprocessing of operating tables, bed frames, and mattresses.

Steelco trolley washers offer: versatility, safety, performance, and environmental sustainability with low total cost of ownership.

1800-1900 mm

2500 mm - 2900 mm (BOT)

LC 20

**Hinged door/s
1500mm chamber depth**
1 chamber size, capacity of up to nr. 16 full size sterile containers

LC 80
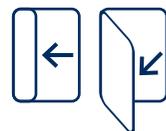
Horizontal auto-sliding or hinged door/s, 2250 or 3000mm chamber depths
4 chamber sizes, 2 door types, capacity of up to nr. 36 full size sterile containers per chamber. Customized automatic loading/unloading systems and double chamber configurations to meet higher productivity needs

Flexibility & Specialization
coming together

Layout Optimization Solutions

The variety of different models and configurations allows the optimal solution for specific customer needs.

For sterile transport trolleys

The most typical application of a trolley washer inside a hospital is washing and disinfecting trolleys for transporting surgical sets to and from the central sterilization department. The reprocessing of many bulky trolleys and their immediate availability are key factors that guide the choices of ergonomics and productivity requirements of the washing system.

Steelco reduced the depth of the sump in the washing chamber to ensure loading surface at floor level, requiring a pit of minimal depth, or short ramps when a pit is not possible due to architectural limitations at the installation site.

Productivity improvements can be obtained by selecting the load capacity, thermal or chemical washing/disinfection process, and the availability of speed and efficiency options, whilst considering environmental impact.

In barrier in a CSSD

Trolley washers are frequently used in washing barriers alongside instrument washers. This use is particularly advantageous when the sterilization containers are used, making them directly available in the packaging area. In this specific application, a small footprint is of extreme importance.

Using a trolley washer for container washing is both economic and environmentally sustainable. The consumption of water, chemistry, and energy per single container is up to 4 times lower compared to an instruments washer.

Steelco trolley washers' flexibility allows the disinfection treatment of storage boxes, operating shoes, basins, service trolleys, or other bulky elements.

For bulky loads

The BOT version of LC 80 reprocesses operating tables, bed frames (including mattresses), or other bulky items.

LC 80 BOT shares the same configuration flexibility of other models of the series and is available in different chamber sizes and door configurations to facilitate the loading of bulky items into the washer disinfector.

The unit can be configured to achieve optimal thermal and/or chemical washing/disinfection performance. The hybrid version of the LC 80 enables either thermal or chemical disinfection without compromising cycle time or low chemical or water usage.

Challenges such as 24/7 use, productivity peaks, or working staff optimization may require the adoption of loading/unloading automations or multichamber sequential solutions.

Key Advantages
a winning combination

LC series: tailored solutions with an infinite combinations of capacity, disinfection process, productivity, automation, energy and water saving and recycling.

Process Quality Focus

Implementing a high capacity automatic washing and disinfection system for trolleys and bulky items is a choice dictated by needs that can be very different within a hospital.

Whether it is containers or sterile transport trolleys inside a CSSD, operating or hospital beds, or other items which need to be reprocessed in large volumes, Steelco offers validated solutions with dedicated disinfection processes.

Steelco innovation improves cycle efficiency and safety, reduces process times and utility consumption, and helps reduce manual handling of loads.

Contact us to know more about what Steelco and Miele's research efforts have developed to improve the quality of the washing and disinfection process.

Eco Friendly Efficiency

Steelco's range of high-end solutions to save water and energy.

Steelco trolley washers are engineered to offer best-in-class solutions for the reduction of energy and water consumption, giving users the lowest operating costs per load.

Optimized Process Speed

We aim to provide customers with the fastest possible processes in compliance with international and local standards, always considering the specific characteristics of the load and operational environment.

A wide range of options enhance the performance of both the washing and drying phases.

Modular Loading System

The range of Steelco's loading accessories improves the efficiency in the CSSD.

Loading trolleys, designed for flexible use, are components of a modular system to maximize capacity.

Layout Optimization Solutions

Various device models, chamber sizes, and door openings allow LC trolley washers to perfectly fit the layout of any CSSD or hospital.

Steelco trolley washers are designed for off-pit or in-pit installation with extremely limited depth requirements and are shipped in pre-assembled modules to overcome architectural limitations (door passages, lifts…) and speed up installation.

Steelco can provide 3D architectural planning services to support CSSD team managers in customizing layout configurations for new or refurbishment projects.

Your Needs & Our Solutions
coming together

Every new project comes with new challenges. Customers' load and processes are different, needing specific solutions. Steelco offers a variety of options to meet even the most difficult challenges.
Start the challenge by answering some questions:

What is my typical load?

The typical load, its volume, the washing challenge, and any exceptions or future needs are among the necessary information for defining your the trolley washer configuration.

Is my load thermosensitive?

If so, chemical disinfection is the process respecting material heat compatibility. Chemical disinfection can also be the right choice for customers seeking superfast reprocessing cycles.

What are the architectural constraints of my installation site?

Do I have enough space for a standard or compact trolley washer? Even if Steelco LC series requires a shallow pit, is a pit foreseen at the installation site? Will it be easy to operate and service the unit properly without compromises?

Which are the available utilities at my installation site?

Depending on the availability of utilities at a customer site, Steelco LC series can be configured with either Electrical or Steam heating systems. A Mixed heating configuration, normally running steam-fed, could be temporarily switched to an electrical configuration as a safety backup solution in case of inconsistent availability of steam.

Does my load need cold water pre-wash?

In case of contamination of the load with blood, a pre-wash phase with cold water is needed. However, it is possible to reduce the impact of this phase on cycle time by installing one of the available "Fast Cycle" options.

Do I need to alternate thermal and chemical disinfection processes? How often?

LC 80 series' configuration can be tailored to alternating chemical and thermal disinfection processes without compromising either productivity or water/chemicals/energy savings.

A single washer optimized for different types of loads.

What are my productivity needs? How quickly do I need properly cleaned, disinfected and dried goods?

Steelco trolley washers can be tailor-configured for high productivity and optimized efficiency. Challenge accepted!
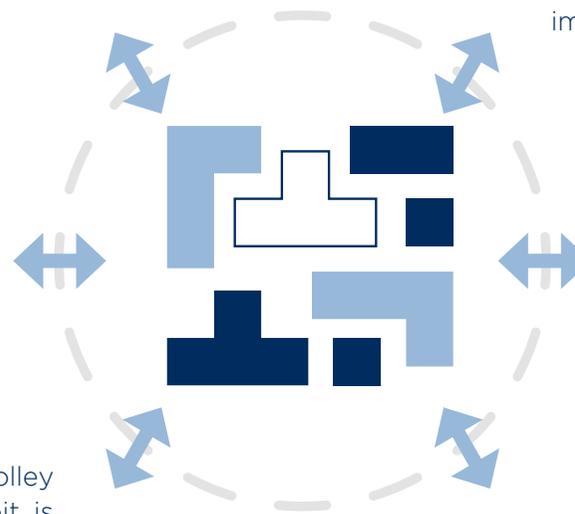
Safety & Performance
coming together
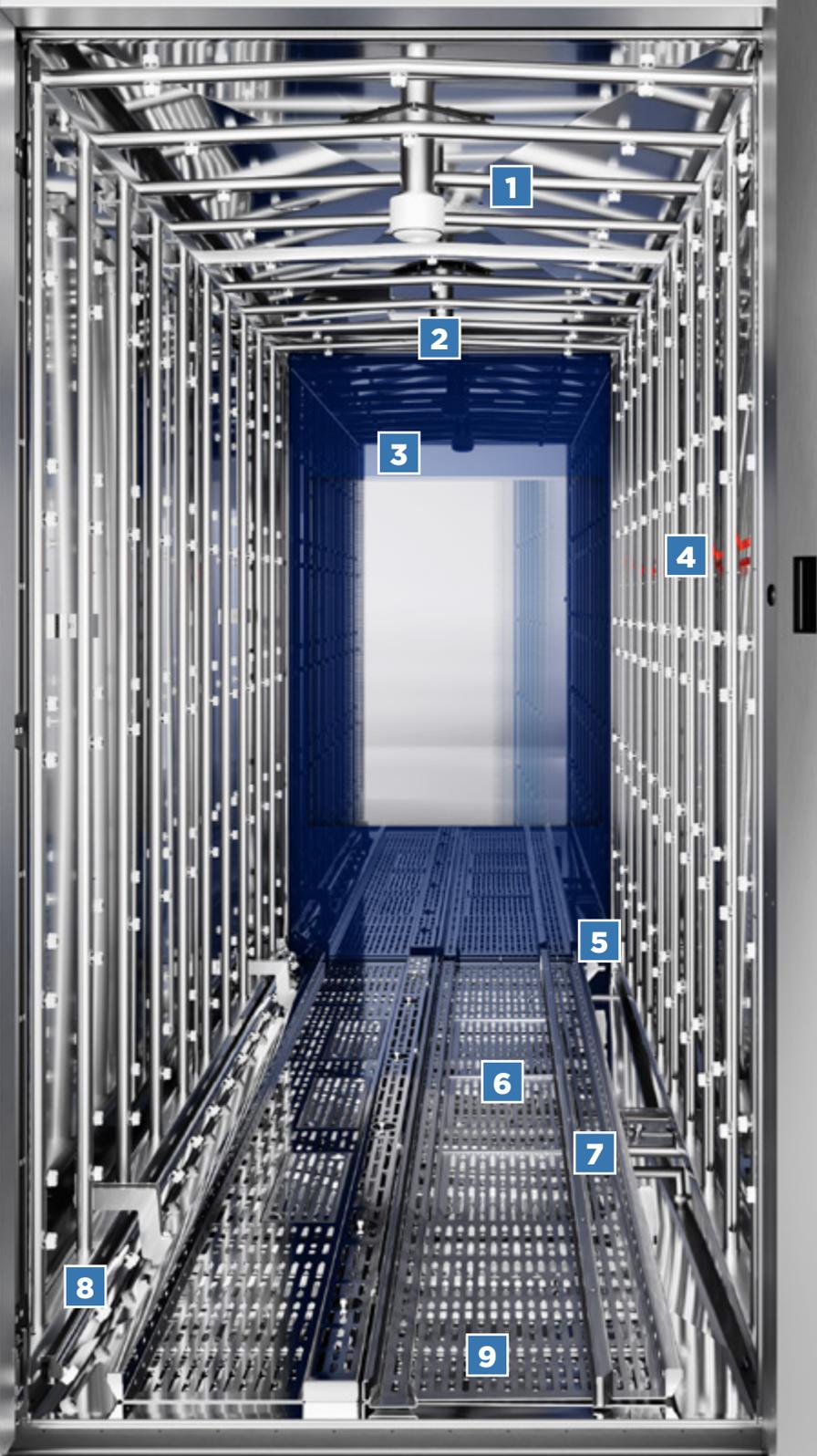
1. The 3D washing system, spraying water from four sides - bottom and top included - allows for a total load coverage with a variable spray pattern.

2. Single or double telescopic manifolds automatically connect specific wash carts to the hydraulic washing system of the machine for ultimate washing quality.

3. Sliding or hinged door/s configurations.

4. Emergency door opening.

5. Safety block for proper positioning of the washing cart.

6. Double stage water filtration system to prevent recirculation of debris. The finest mesh filter is automatically counter flushed for self cleaning and to maintain optimal washing efficacy.

7. Adjustable rails are available to match Steelco or customers' trolleys.

8. Hydraulic circuit, programmable to flush machine floor and sump.

9. Reduced sump depth for easier integration/compatibility with installation site pit.

Picture: washing chamber of LC 80/3 with direct coupling of washing trolleys

9

Efficiency & Sustainability
coming together

Eco Friendly Efficiency

Unrivalled efficiency levels. Energy reduction and water consumption with the lowest operating costs per load.
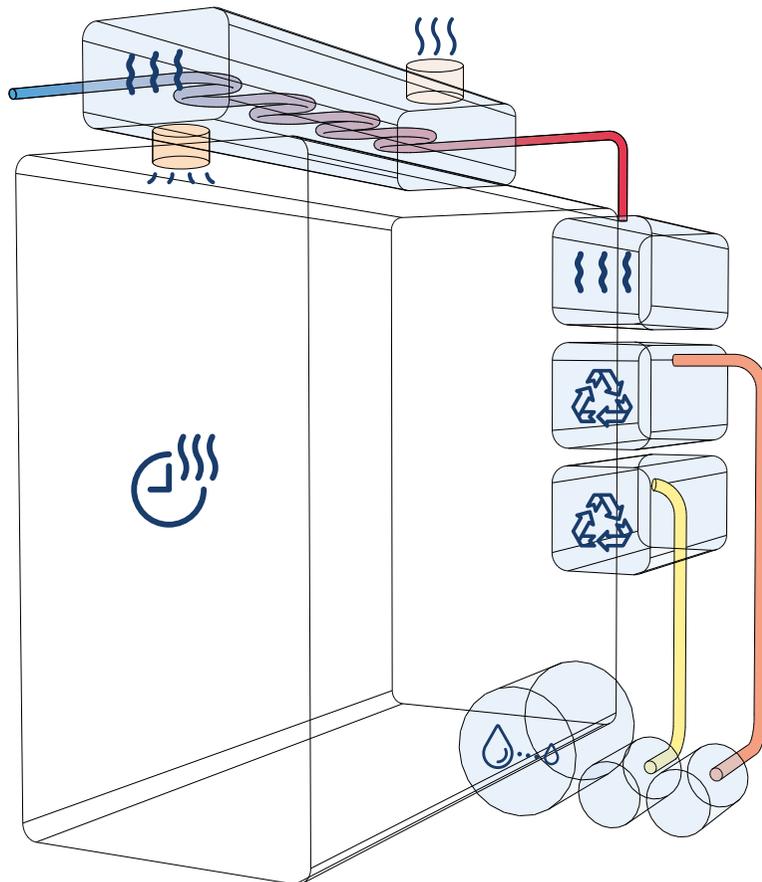
Steelco trolley washers have efficient hydraulic systems and dynamic water loading according to load and cycle phases.

To assist customers in conserving water and energy even further, Steelco introduced ECO packages.

Water recycling kits

In compliance with regulations and according to the defined washing/disinfection process, it is possible to reuse - totally or partially - higher-quality water for subsequent cycles.
Steelco LC range allows maximum flexibility in water recovery.

Steam condenser for water saving and heat recovery

The steam released during the hottest phases of the treatment cycle (mainly thermal disinfection and drying) is an excellent source for energy and the water recovery. Steelco LC Series includes systems for the connection to closed water circuits with zero water consumption or allows to use water from the preheating tanks.

Drying duration controlled by humidity sensor

Goods' dryness heavily depends on the type and volume of load. Therefore, controlling the duration of the drying phase by humidity sensor ensures the exact time and energy needed for the ideal result.

Every drop counts

The annual water consumption of a CSSD of a typical university hospital with 2 units of high-capacity trolley washers (one for closed carts and one for sterile containers - 15 cycles per day, 6 days a week, 52 weeks a year) without water recovery system can be as high as 3,650,000 l/year. Steelco ECO options can reduce consumption over one-third.

Steelco quotes water savings compared to its standard devices, not other companies'. Only actual consumption figures for specific cycles with and without utility saving packages provide a realistic comparison.

Flexible configuration and heating systems

Steelco LC trolley washers are available in different configurations for heating washing water and drying air:

• Indirect steam heating and electrically heated drying (type "VEV")

• Fully indirect steam heating (type "VVV")

• Fully electrical heating (type "EEE")

• Combined indirect steam heating with electrical heating; to activate as back-up solution in case of temporary lack of steam (type "MEM").

Sterile container reprocessing

Sterile containers are one of LC primary applications. Water consumption of a thermal disinfection cycle - calculated for each container - can be half with respect to water consumption per container of a standard washer disinfector mounted in barrier.

Efficiency & Performance
coming together

**Optimized
Process
Speed**

Unrivalled performance reducing cycle time without compromising energy and water consumption.
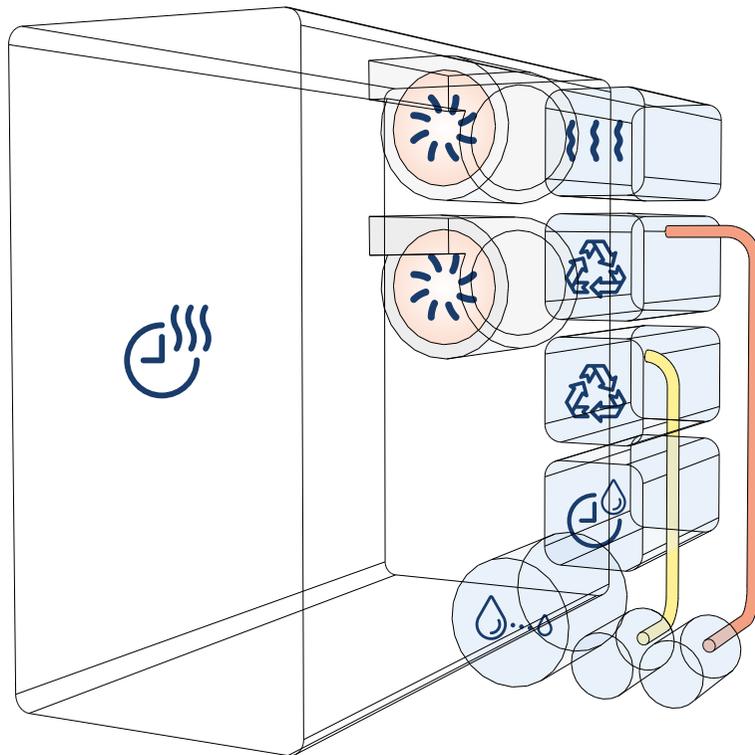
Cycle time as fast as 6 minutes only

Fast Cycle configuration

When seeking faster reprocessing cycles, optimized machine configuration using additional water preheating tanks and "smart hydraulic circuits" helps achieve a reduction of overall cycle time.

Uncompromised performance when alternating thermal and chemical disinfection cycles

By choosing the Hybrid configuration of LC 80, it is possible to run thermal or chemical disinfection cycles, according to the load to be reprocessed, by simply selecting the appropriate cycle.

Smart hydraulic circuit

Waiting to feed the chamber sump to start the cycle is not longer necessary. "Smart hydraulic circuit" allows for a quicker and more efficient process, reducing the cycle time.

Enhanced power drying system blowers and heaters

When the type of goods to dry and/or the productivity demand ask for enhanced performance, it's possible to increase LC 80 drying capacity.

Double chamber tunnel washer

Steelco can double the already high productivity of LC 80 trolley washers. The double chamber sequential model, with load transfer automation, achieves this result by dedicating the first chamber to washing/disinfection phases and the second to drying. The same successful approach as the market proven Steelco TW 3000/2 instrument washer disinfector.
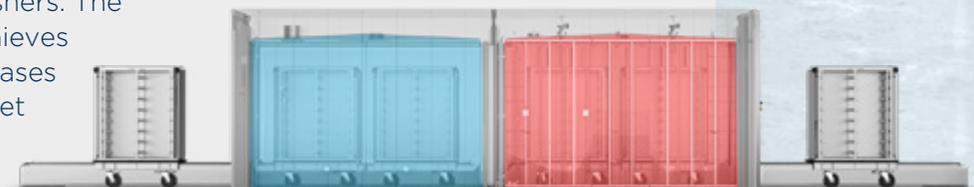
Productivity & Automation
coming together

Layout
Optimization
Solutions

Loading/unloading automations for transport trolleys, loading trolleys, customer items or other loads

Customized automatic loading/unloading solutions for single or double chamber trolley washer disinfectors. This series' unmatched flexibility enable the optimal choise.

Customized solutions

A comprehensive range of devices enables Steelco to supply tailored sterile processing solutions from small clinics to large centralized sterile reprocessing departments.

Experts in automation

Ask Steelco experts which automation option matches your needs, maximizing ergonomics, reliability, operator safety, and cost balance.
Adopting automation, although increasing initial capital investment, reduces operating costs and save resources in the long term.

Automation can also optimize space usage inside the reprocessing departments. We can suggest the best solution to fit your needs.

Lifting platform

The solution for pit-less or reduced pit depth installations.
Lifting platforms reduce the risks connected to handling heavy trolleys on inclined loading ramps.


gap

Automatic conveyors

Different loads may require different and dedicated automation solutions.
Steelco's engineering team offers the right support in the development phase to design the perfect accessories based on intended use.
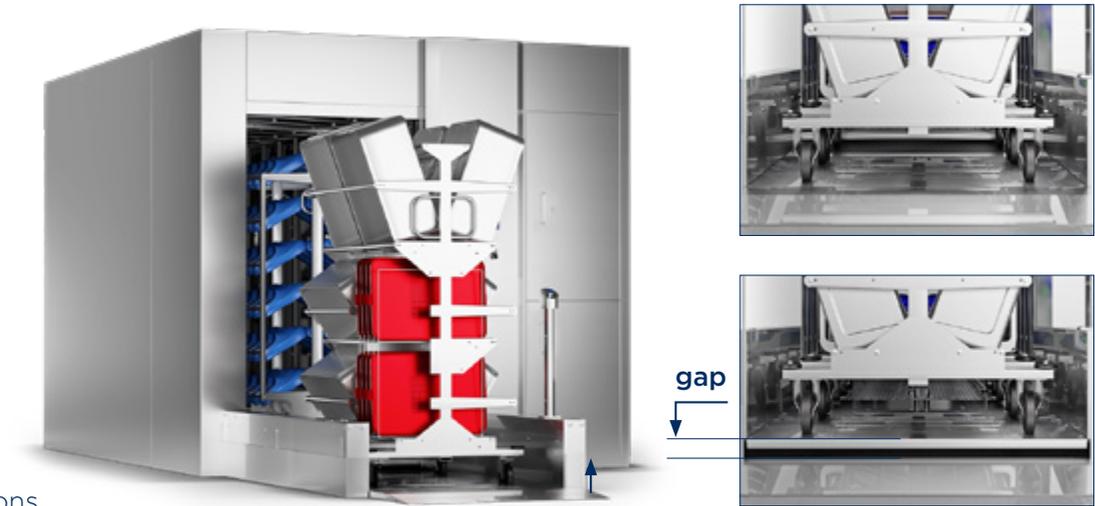
Chain-based conveying system

Push/pull conveying system
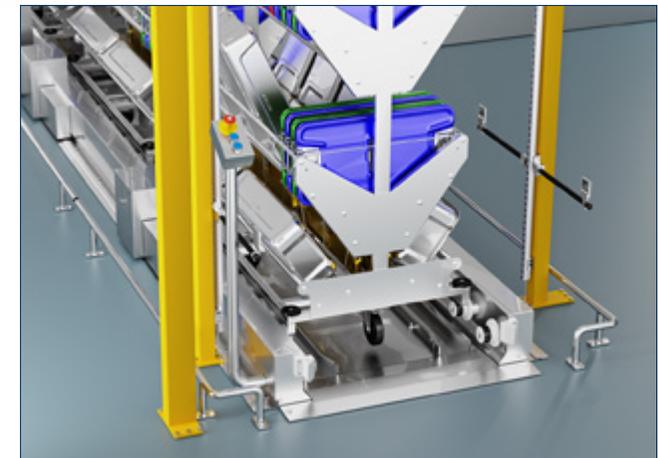
Conveying system on rollers

15

Wash Carts
## customizable solutions

Modular Loading System

Steelco trolley washers range offers customers a wide choice of washing trolleys for sterile containers, OP rubber shoes, washing bowls, large bins and other bulky items.

Loading trolleys are components of a modular system to maximize capacity. They are designed for a flexible use.

Loading trolleys size

Each trolley is identified with a dimensional class to maximize washer productivity and minimize energy and water consumption.

1500 mm 59.06"	2250 mm 88.58"	2250 mm 88.58"	2250 mm 88.58"	3000 mm 118.11"	3000 mm 118.11"
A - D	D	A C	B B	A - D A - D	B B B
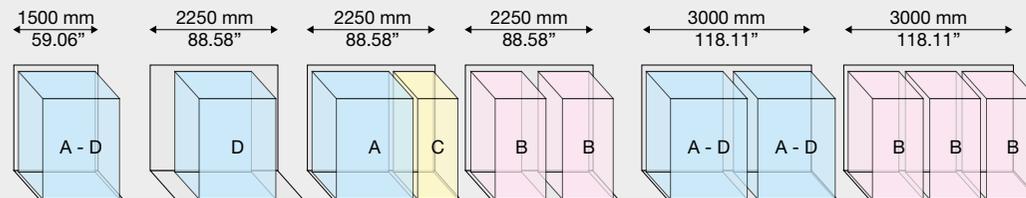
Different trolleys for different loads and applications

To optimize and ensure proper cleaning and decontamination results, Steelco has developed customized washing trolleys for specific applications.

Mattresses

Adjustable trolley for different container sizes

Commode chairs

Wheelchairs and crutches

Carboys

Bottles

X-ray aprons

OP theatre shoes/clogs/bottles

Details to make the difference
every component counts

Top quality materials, devices made to last

The washing chamber and all critical components involved in the washing process are made of high-quality AISI 316 L stainless steel, a guarantee for cleanliness, reliability, and long life expectancy.

Water filtration for a reliable washing performance

The double-stage filtering system has an easily accessible first-stage filter at chamber floor level and a second, fine-mesh self-cleaning filter - in the technical area - protecting spray nozzles from potential clogging.

Chemicals storage and dosing pumps

Up to 4 chemical dosing pumps (5 on the hybrid version) provide sufficient flexibility for load-specific washing processes. In addition, maintenance-free chemical dosing pumps are also available. Chemicals are stored in a dedicated easy-to-access compartment in the technical area of the unit (up to five 10-liter tanks).

Service made easy

Service is made easy by the logics and easy to read arrangement of all electrical, hydraulic, and pneumatic components. In addition, most of the electrical connections are with IO link sockets, better supporting the service technician in troubleshooting possible malfunctions.

Effective washing requires proper water quality

A proper water quality also helps to prevent the deposition of contaminants such as limescale and prolongs the life of the washing device. Steelco offers a wide range of water treatment options for different-sized facilities: water softeners, RO and DI water systems.
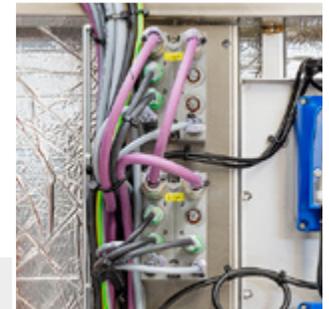
Minimized footprint and technical area

Steelco LC series is designed to optimize the footprint/capacity ratio. The service area is lit and easy to access. Maintenance is streamlined, highly simplified, and cost effective. Components are all easy to access and regular maintenance can be performed rapidly, thus enhancing up-time.

The chamber floor has easily removable panels to facilitate regularly maintenance.

HEPA H14 filters are installed to ensure proper filtration during the drying phase.
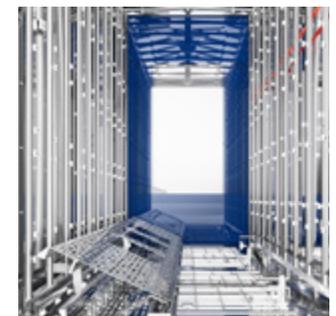
Flexibility & Control
coming together

**Flexibility,
Control &
Connectivity**

A user-friendly interface

Operators are supported in every step of their interaction with the device through clear and easy-to- understand commands. Cycle programs can also be selected via barcode or RFID scanner.
The large 7″ (or 10″) touchscreen control panel displays cycle status and alarm messages, facilitating device control with bright and easy to read information

Increased productivity

The trolley washer features a "sleep mode" functionality to reduce idling energy consumption and a "programmed start" to be ready for the first cycle of the day at the opening time of the CSSD or ward.

Washing performance

The HMI displays washing pressure and water conductivity parameters during relevant process phases, including final rinse quality check.

User access levels

User access is split into 5 levels to ensure that only trained staff have access to specific functions: operator, department manager, service technician at the customer's site, authorized service technician, and manufacturer.
Thanks to the HMI's intuitive design, in line with the whole Steelco portfolio of devices, operations are easy and processes are safe.

Synoptic HMI mode

The trolley washer is designed to streamline maintenance. An easy-to-read synoptic panel allows for an in-depth overview of device end component status.

Cycle data storage

Cycle data is stored and available from the optional integrated printer and, if the device is connected to the network, data can be sent to a centralized traceability system.

Clear and easy to understand main menu
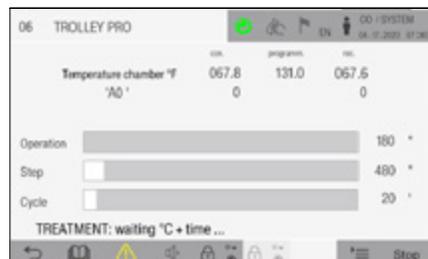
Highly visible cycle status and alarm messages.
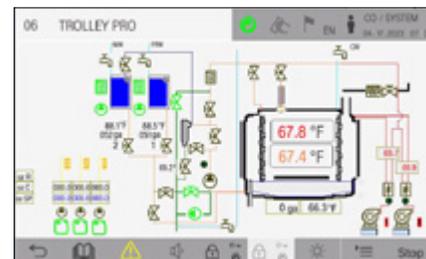
Easy-to-read synoptic panel

SteelcoData Live & Pro
management & traceability system

SteelcoData Pro

SteelcoData Live

machine and cycle traceability

instrument traceability

To ensure the availability of the right instruments in the right place at the right time, consistently reprocessed to the correct standard in the minimum amount of time and at the lowest cost.

SteelcoData Live

It is a web-based software allowing to see real-time machine performance, cycle data, and alarms with historic records. When available from the device, utility consumption is also stored. Information is traced and efficiently visualized for device monitoring and data management with different authorisation levels.

SteelcoData Live is also the link between Steelco devices and instrument traceability systems such as SteelcoData Pro.

SteelcoData Pro

Allows to track sets as well as individual instruments from their point of use in the OR through each stage of reprocessing, transportation, and storage until they are ready to be used again.

Software features:

+ Respects HL7 standard
+ Reliable information and data entirety

+ Traceability and backward traceability of user activities and material handling
+ Full coverage of activities in the CSSD
+ Real-time analysis
+ Efficiency improvement tools
+ Procedure automation, no unnecessary steps
+ Workstations can only display activities in the specific user's area of competence
+ Effective information sharing with customers
+ Integrable with other client software systems

Capacity and Dimensions
Layouts and configurations

LC 20
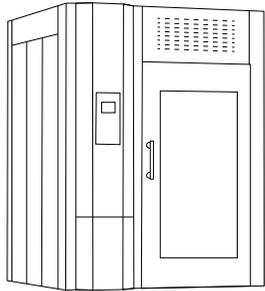
Model	Chamber (WxDxH) - mm			Volume	Overall (WxDxH) - mm		
Thermal version - single door and double door models							
LC 20	900	1500	1850	2.5 m³	1800	1658	2460
Chemical version - single and double door models							
LC 20	900	1500	1850	2.5 m³	1900	1658	2460

The device can be installed on the floor with small ramps, or into a 110mm (4.33") pit for floor level loading.

LC 80 - LC 80 BOT
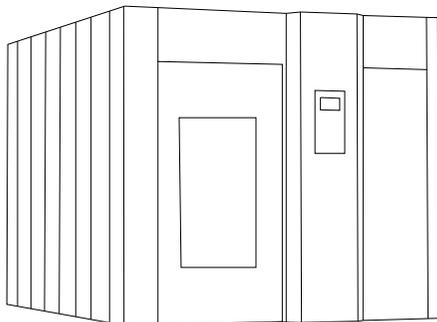
Model	Chamber (WxDxH) - mm			Volume	Overall (WxDxH) - mm		
single and double door models - thermal or chemical or combined hybrid							
LC 80/2	1000	2250	1890	4.8 m³	2500	2550	2410
LC 80/3	1000	3000	1890	6.5 m³	2500	3300	2410
LC 80/2 BOT	1200	2250	1890	5.1 m³	2900	2550	2410
LC 80/3 BOT	1200	3000	1890	6.8 m³	2900	3300	2410

The device can be installed on the floor with small ramps, or into a pit for floor level loading.
Steelco trolley washers have a modular design, enabling access through existing buildings.
Some configurations may affect overall dimensions.

Technical Data
Components and versions

	LC 20	LC 80	LC 80 BOT
Standard compliance			
European machine directive 2006/42/EC and medical device directive 93/42/EEC	•	•	•
EN 15883-1/2	•	•	•
Chamber and door			
Number of door/s	1/2	1/2	1/2
Door movement	Hinged	Hinged/Sliding	Hinged/Sliding
Light inside the chamber	○	○	○
Lateral tilting	-	•	•
Smart Hydraulic	-	○[1]	○[1]
AISI 316L chamber	•	•	•
Technical area			
Left or right technical area configuration	L/R	L/R	L/R
Front access for service	•	•	•
Control system and traceability			
5.7" HMI		-	-
7" touch screen HMI (loading side)	-	•	•
10" touch screen HMI (loading side)	-	○	○
7" touch screen HMI (unloading side)	-	○	○
Barcode reader for cycle parameter recognition	○	○	○
Integrated printer	○	○	○
Ethernet connection	•	•	•
USB port	○	○	○
Disinfection procedure			
Thermal disinfection	○	○	○
Chemical disinfection	○	○	○
Thermal and chemical disinfection	-	○	○
Drying options			
HEPA H14 filter	○	○	○
RFID sensor	-	○	○
Process monitoring			
Humidity sensor	○	○	○

Notes:
1) Smart Hydraulic cyrcuit is always included for both chemical and hybrid disinfection configurations.

• = Standard   ○ = Option   - = Not available

Steelco

Miele **Group Member**

Customization.
Innovation.
Excellence.

text rotated in right margin

Products offered for sale may differ from those described or illustrated in this brochure due to later production changes or /and optional configurations.
The products and technical specifications are subjected to change without prior notice. Please consult your Steelco dealer for the latest information.

STEELCO - Miele Group Member
Headquarters:
Via Balegante, 27
31039 Riese Pio X (TV) - Italy
Ph. +39 0423 7561
Fax +39 0423 755528
info@steelcogroup.com
www.steelcogroup.com

Branches:

STEELCO AUSTRIA
Wals-Siezenheim, Austria
info-at@steelcogroup.com

STEELCO BELGIUM
Mollem, Belgium
info-be@steelcogroup.com

STEELCO BENELUX
Vianen, Netherlands
info-benelux@steelcogroup.com

STEELCO CHINA
Shanghai, China
info-cn@steelcogroup.com

STEELCO FRANCE
Paris, France
info-fr@steelcogroup.com

STEELCO GERMANY
Gütersloh, Germany
info-de@steelcogroup.com

STEELCO HUNGARY
Budapest, Hungary
info-hu@steelcogroup.com

STEELCO MEXICO
CDMX, Mexico
info-mx@steelcogroup.com

STEELCO NORDIC
Glostrup, Denmark
info-nordic@steelcogroup.com

STEELCO NORGE
Nesbru, Norway
info-no@steelcogroup.com

STEELCO SPAIN
Madrid, Spain
info-es@steelcogroup.com

STEELCO SWITZERLAND
Spreitenbach, Switzerland
info-ch@steelcogroup.com

STEELCO USA
West Palm Beach, FL, USA
info-usa@steelcogroup.com

$C\epsilon$ 0051*

*Only for products listed
into the 909/MDD certificate

DC-PD-02-LC- EN Rev.06