Washer disinfectors
for transfer trolleys, sterile containers and bulky items

Miele Group Member

Washer disinfectors
for transport trolleys, sterile containers and bulky items

Saving time is a must!

The amount of sterile containers and trolleys used in hospitals has increased significantly due to the centralization of sterilization services.

Steelco trolley washer disinfectors are an effective solution to improve the efficiency and economy of a sterilization centre.

Fast process

Steelco trolley washer disinfectors are high capacity devices.

The shallow sump, together with the optimized size of the pre-heating tanks, reduces water consumption and heating times to the minimum whilst observing international standards.

> **LC 80 series**
> high capacity sliding door trolley & rack washers

> **LC 80 BOT series**
> high capacity sliding door trolley & rack washers: models suitable for bed frames and operating tables

Standard compliant

Steelco Washer-Disinfectors are designed and constructed to comply with the latest European guidelines on decontamination. EN ISO 15883-1/2, CEN ISO/TS 15883-5 Steelco Washer-Disinfectors are classified CE Medical Device (Community rule 93/42/CEE) code nr. 0051.

$C\epsilon$ 0051

Individually adapted systems in more than 9 sizes

Steelco has developed a wide range of trolley washer disinfectors adaptable to any CSSD configuration. In order to maximize the ratio of the reprocessing capacity the footprint operating area, our range is organized among sliding or hinged door models all available with different washing chamber widths, depths and heights.

> **LC 70 series**
> high capacity swing door
> trolley & rack washers

> **LC 20 series**
> compact swing door
> trolley & rack washers

Other medical range
Steelco products:

ARES
Endoscope Reprocessing System

Washer disinfectors
CSSD Range, systems and automations

**Low temperature
and steam sterilizers**
for central sterile supply
departments

Cleaning effectiveness

Mechanical action is important to ensure the cleaning effectiveness of the whole wash process. Steelco uses different washing pumps, depending on each individual model, to optimize the highest flow rate of water and an efficient spray pressure minimizing water use.

Washing chamber

The washing chamber, spray arms, preheating tanks and triple stage water filtering systems are made of high quality AISI 316L stainless steel.

The washing chamber is designed and constructed with smooth edges and corners, to minimize dirt traps that can encourage bacterial growth.

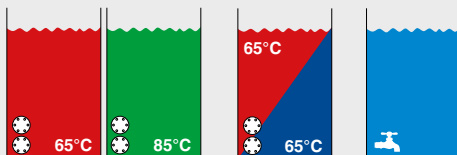The water sump level is monitored to economize water consumption.

Water filtering

Steelco trolley washer disinfectors are equipped with a triple filtering system in order to capture residues from the soiled goods thus avoiding their recirculation and increasing the pump's life.

The third stage filter is self cleaning for easy service access and long filter life.

Fast process

65°C

65°C   85°C   65°C

Thanks to the two pre-heated tanks directly connected into the washing chamber, cycle times are significantly reduced. Temperatures are referred to pre-heated tanks and higher temperatures up to 93°C/199°F are reached by water recirculation through an external heat exchanger.

The devices can be equipped with a **third tank** to speed up the filling of cold water in the chamber when a cold prewash phase is needed and/or configured with a **water recycling system**. Optionally DI water used in the thermal disinfection phase can be recycled into the dedicated tank and reused for the next cycle pre wash phase, ensuring significant savings in energy, water and time.

Trolley connection manifold

The automatic manifold connection is a patented solution exclusively available for Steelco trolley washers which allows the loading of trolleys equipped with spray arms or washing injection systems.

This unique option allows the validated treatment of surgical instruments, extending the trolley washer function range by making it a flexible device that can assist CSSD throughput during busy times as well as be a productivity back-up.

Smart solutions

Steelco washing injection systems are more than simple accessories.

Smart solutions are our answers to the different needs of our customers.

A simple clog support, if reversed, can be used as a holder for suction bottles.

Thermal disinfection

Thermal disinfection is the most efficient method for the disinfection of reusable medical devices, strongly recommend by european guidelines to be used whenever possible. Thermal disinfection is achieved by raising the temperature to 93°C and holding it for a programmed time, variable for different cycle profiles depending on the items to be reprocessed.

Forced hot air drying

According to EU guidelines, drying is a fundamental phase of the whole cycle which can heavily affect the total process time.

Each Steelco trolley washer is equipped with a lateral tilting platform allowing faster water dripping of the reprocessed transport trolleys.

The forced hot air drying system facilitates the total removal of remaining water from surfaces.

When the washer disinfector is equipped with the automatic trolley connection manifold, hot air flows through the hydraulic circuits of the washing trolley, washing arms and injection systems allowing the drying of all items.
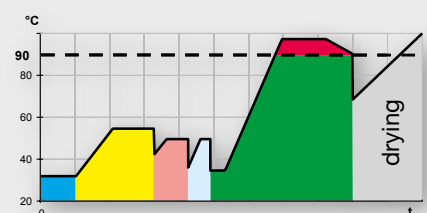
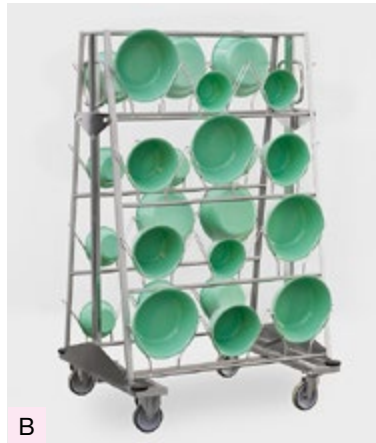## Turbo Drying the drying system **performance** upgrade.

Steelco Turbo Drying system controls the drying air inlet by means of HEPA filtered hot air recirculation inside the washing chamber.

The recirculation of the air creates high turbulences inside the chamber thus reducing drying times and, as a result, energy and HEPA filter consumption.
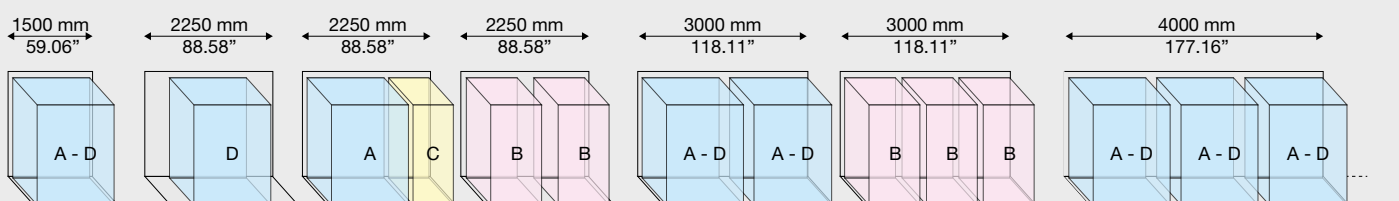
Maximum productivity

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

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

Examples coded by dimensional class.

B

A

D

C

D

Washing trolley sizes

1500 mm 59.06"	2250 mm 88.58"	2250 mm 88.58"	2250 mm 88.58"	3000 mm 118.11"	3000 mm 118.11"	4000 mm 177.16"
A - D	D	A C	B B	A - D A - D	B B B	A - D A - D A - D

Control system

SteelcoTronic control system, with auto-diagnostics constantly monitors and displays the current cycle status and alarms.

It assures the traceability of the principal validated parameters outlined in European standard ISO 15883 on the reprocessing of reusable items.
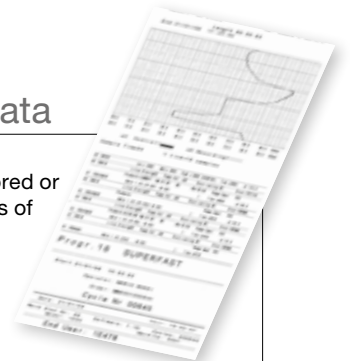
Print reports and cycle data

During each washing cycle the software generates a report that can be printed, stored or transferred to the hospital server by means of RS232 or ethernet port.

All critical parameters are registered:

- machine model, number and operator;
- cycle starting/ending date and time, status at the end of the washing cycle;
- Ao values:
- programmed and executed water and chemical consumption;
- temperature measured by 2 independent monitoring probes during each cycle phase;

The **colour touch screen control panel** allows the user to optimize the process and to personalize the washing and disinfection programs of a trolley washer. During the washing cycle, the control screen displays all phase details and shows remaining time.

The access to the control panel is protected by 3 password levels for the installer, maintenance technician and operator. Operator identification is requested to enable the washing cycle programming or its start.

Up to 65 memorized washing and disinfection programmes:
- 5 service programmes, - 10 standard programmes for transfer trolleys, OP rubber shoes, sterile containers.... plus 50 additional customized programs.

Data archiving system and process control.

Ethernet connection.

SteelcoData - Data management and remote monitoring of the devices

SteelcoData is a powerful software package to **visualize the selected cycles, manage and store information** generated by all devices configured in the system. SteelcoData also allows the **remote monitoring of devices**.

SteelcoData can be easily connected to the IT system the customer is already using, keeping all the cycle data stored for referal or legal purposes.

Complete storage of the registered data

Sistematic data collection from each device allows **a visual information summary which can be immediately interpreted by the operator**. The complete data is available for **back up to the hospital server**.
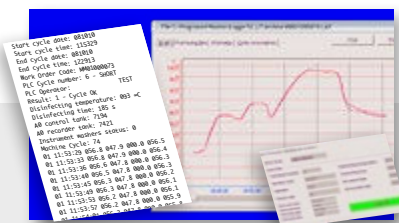
In the event of a connection interruption with the server, the device can continue to operate and all records will be automatically transferred once communication is restored.

CSSD Integration

Steelco trolley and cart washer disinfectors represent a substantial improvement in terms of economy and efficiency of a CSSD department. Steelco is looking forward to support CSSD team managers, providing them with customized solutions to reach the highest productivity level for every layout configuration in new or refurbishment projects.

Cycle consumptions and statistic functions

Screens display information on **cycle consumption** of water, chemicals and alarm history.
SteelcoData also allows an **immediate visual comparison of data and charts** of different devices.

The software allows the export and recall of hystoric cycle and load data.

LC 20 - Compact cart and trolley washer disinfector

Steelco LC 20 is the most compact trolley and cart washer in the market.

Despite its small size, LC 20 is a complete and multipurpose device.

It is available in two versions for **thermal** or **chemical disinfection**.

Integrated chemical storage with easy access hinged door on bottom section of the service area.

width: 180 cm/70.87" only!

Frontal access to all major service components enables installation in restricted spaces.
LC 20 is suitable for installation between 2.000mm/78.74" width walls without the need for side access.

Washing chamber capacity

up to **16X** 1500mm (53.06") chamber depth

STU full size **32X** 3000mm (118.11") chamber depth

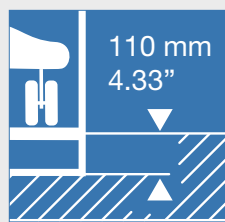## The first step to integrate a trolley washer into an existing CSSD barrier

Reduced size
The footprint is reduced by up to 50% compared to standard sizes machines.

Easy installation
Steelco LC 20 needs a pit depth of only 11cm / 4.33". Off-pit installation requires short ramps.

-50%

110 mm
4.33"

Trolley connection manifold
LC 20 can be equipped with a manifold system which allows the water connection for trolleys fitted with spray arms and injection systems.

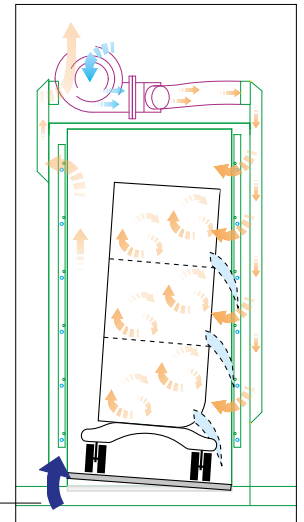# LC 20 - thermal disinfection version washing chamber features

Oscillating spray nozzles

Multiple horizontal oscillating spray nozzles ensure optimal wash surface coverage.

Trolley guide rail

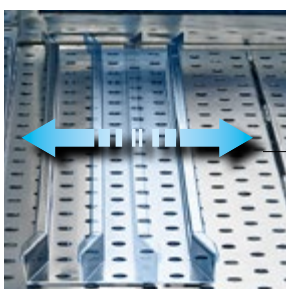An easy adjustable guide rail ensures perfect alignment for any trolley.

Forced hot air drying

The efficient forced hot air drying system assures total removal of the rinse water residues. Warm air inside the chamber is homogeneously distributed for fast and efficient drying.

The washing chamber floor is equipped with a lateral tilting platform allowing, at the end of the rinsing phase, water to drip from items for a faster and easier drying.

Easy access to the water sump

The washing chamber floor is of AISI 316L stainless steel and is made of removable sections to assure easier celaning and maintenance.

A flush self cleaning filter captures residues during the re-circulation of the washing water, preventing nozzles clogging.
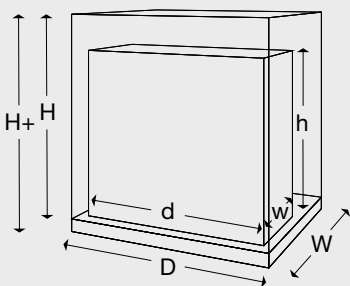
LC 20 - Key features (thermal disinfection version)

- Available in **single door** or **double door pass-through** versions. 1500mm or 3000mm chamber depth.
- Double glass hinged door (HST) for easy process visual inspection.
- Washing chamber made of mirror polished stainless steel AISI 316L.
- External body made of stainless steel AISI 304.

- Washing and DI water temperature fully adjustable up to 93°C/199°F with independent temperature monitoring.
- Vertically installed self flush stainless steel pump.
- Washing pump pressure control.
- Electrical heated, 400V/3~+N/50Hz, other electrical connections or steam heating available as optional.

- Powerful hot air forced drying unit.
- Standard automatic detergent dispenser provided with flowmeter and level control.
- SteelcoTronic touch screen control panel.
- Integrated chemical storage with easy access hinged door on bottom section of the service area. Capacity of two 10 lt. (2.64 gal. US) chemical containers.

Main optional features

- Cold water connection
- Warm water connection
- Steam heating pre-heating tanks
- Trolley connection manifold
- Analogic sensor on washing circuit for pressure check (registered data)

- 2nd chemical dosing pump
- Conductivity sensor
- Drain pump system
- Drain cooling system

- HEPA H14 air filters
- Steam condenser
- Exhaust air fan
- Self cleaning filter
- Built-in printer for cycle validation and traceability

- Trolley loading/unloading ramps
- SteelcoData supervisor software
- Bar code reader
- Light in the chamber

Washers dimensions

LC 20		external dimensions				washing chamber useful dimensions			
		W	D	H	H+	w	d	h	volume
1.5m chamber	mm	1800	1658	2364	2474	900	**1500**	1850	2.5 m³
	inches	70.87	65.27	93.07	97.40	35.43	**59.05**	72.83	88.3 ft³
3m chamber	mm	1800	3158	2364	2474	900	**3000**	1850	5 m³
	inches	70.87	124.33	93.07	97.40	35.43	**118.20**	72.83	176.6 ft³

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

LC 20 chemical disinfection version
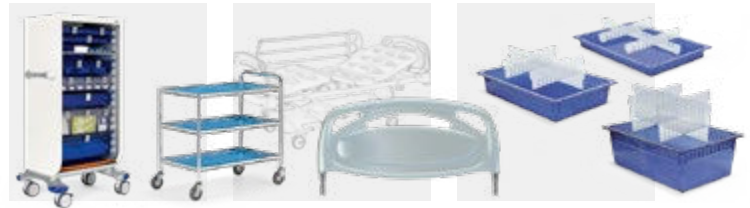## a versatile and multipurpose washer

The **dedicated LC 20 configuration** for chemical disinfection process.

Chemical disinfection

Compliant to EN ISO 15883-1/6, assures the complete treatment of different items in a very short cycle time.

Chemical disinfection configuration is for the treatment of hospital furniture and other items such as medicinal transport trolleys, bed heads, clogs and wheel chairs which are normally treated manually without a validated process.

Furniture Disinfection

Technological innovation has improved the functionality and safe use of the modern furniture which is found in hospital wards and nursing homes. Manufacturer of items such as beds, trolley and patient furniture are now producing items that can be mechanically cleaned.

Immediate availability of the treated items

The small size of the LC 20 system allows its use directly inside the ward. In this way, operators save time in disinfecting items compared to traditional methods.

More safety for the staff and patients

The automatization of the washing process is the answer to operator and patient safety since it **avoids the manual treatment and makes the process reproducible and traceable**.

Dedicated washing and rinsing spray nozzles.

example of a new generation furniture
designed to be washed and disinfected by automatic washing systems

LC 70 - Trolley and sterile container washer disinfector

LC 70 is a **large capacity, hinged door, washer disinfector** dedicated to the treatment of transfer, storage and waste trolleys.

It offers offers complete washing and thermal disinfection treatment with high flow recirculation pumps and high speed forced air drying.
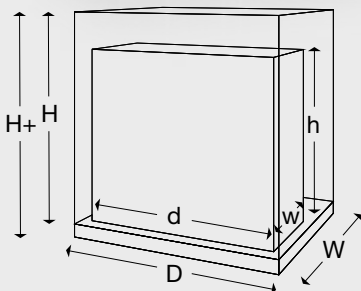
Washing chamber capacity

up to
28X 2,250mm (88.58") chamber depth

STU full size
42X 3,000mm (118.11") chamber depth

Steelco LC 70 is available in **single** or **double door** for pass-through installation.
Both versions can be equipped with stainless steel doors with inspection windows or with **full glass door** for the easy visual monitoring of the cycle.

Washers dimensions

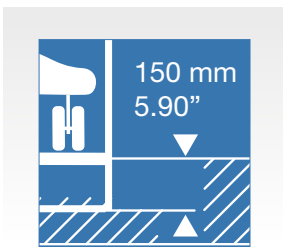| LC 70		external dimensions				washing chamber useful dimensions			
		W	D	H	H+	w	d	h	volume
2.25m chamber	mm	2200	2490	2450	2600	1000	**2250**	2000	4.8 m³
	inches	86.61	98.03	96.46	102.36	39.37	**88.58**	78.74	169.5 ft³
3m chamber	mm	2200	3240	2450	2600	1000	**3000**	2000	6.5 m³
	inches	86.61	127.56	96.46	102.36	39.37	**118.11**	78.74	229.5 ft³

The device can be installed on the floor with small ramps, or into a 150mm (5.91") pit for floor level loading.

LC 70 - Key features

- The machine is available in **single door** and **double door pass-through** versions.
- Washing chamber made of mirror polished stainless steel AISI 316L.
- External body made of stainless steel AISI 304.

- Washing and DI water temperature is fully adjustable up to 93°C/199°F with independent temperature monitoring.
- Vertically installed self flush stainless steel wash pump with pressure control.
- Steam heated, electrical drying.
- Double drying units, up to 1000 m³/h capacity.

- Two automatic detergent dispensers with flowmeter and level control.
- Flush self cleaning filter for the recirculation of washing water.
- SteelcoTronic touch screen control panel.

The automatic manifold system for trolley docking allows water connection for trolleys fitted with spray arms and injection systems.
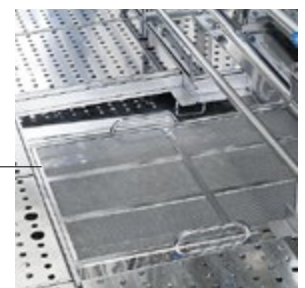
150 mm 5.90"

Pit installation
The trolley washer can be installed on the floor (with a small ramp for an easy loading/unloading of the trolleys) or into a 150mm (5.90") pit for floor level loading.

Loading floor
Loading floor is composed easy removable sections.

Tilting rails
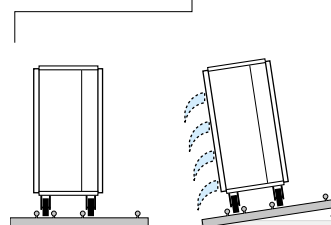The lateral tilting of the rails allows water to drip for a faster drying phase.

Water filtration
Filtration system captures residues during the re-circulation of the wash water and protects the recirculation pump from debris with a pre filter and flush self cleaning filter.

Main optional features

- Electrical heated 111 kW or 201 kW power
- Steam heated drying system
- 3rd pre heating tank (steam or electrical)
- Automatic trolley connection manifold
- Analogic sensor on washing circuit for pressure check (registered data)

- Water recycling system
- 3rd chemical dosing pump
- Conductivity sensor
- Drain pump system

- Drain cooling system
- HEPA H14 air filters
- Steam condenser
- Exhaust air fan
- Built-in printer for cycle validation and traceability

- Trolley loading/unloading ramps
- SteelcoData supervisor software
- Bar code reader
- Light in the chamber

LC 80 - LC 80 BOT - Trolley, sterile container, bed frames and operating tables washer disinfectors

LC 80 / LC 80 BOT washer disinfectors are for the treatment of **carts, sterile containers and large items**.

Multiple oscillating nozzles provide excellent washing results and the incorporated tilting rails ensure a faster drying phase and the easier unloading of items.

LC 80 and LC 80 BOT fulfill European EN ISO15883-1/2 requirements.

Washing chamber capacity

up to

28X 2250mm (88.58") chamber depth

42X 3000mm (118.11") chamber depth

STU full size **56X** 4500mm (177.16") chamber depth

same STU capacity for the LC 80 BOT models

LC 80 BOT with its special chamber execution, mm 1200 width and mm 2250 depth, **is ideal for the reprocessing of operating tables and bed frames**.

Steelco LC 80 is also available with stainless steel doors with an inspection window.
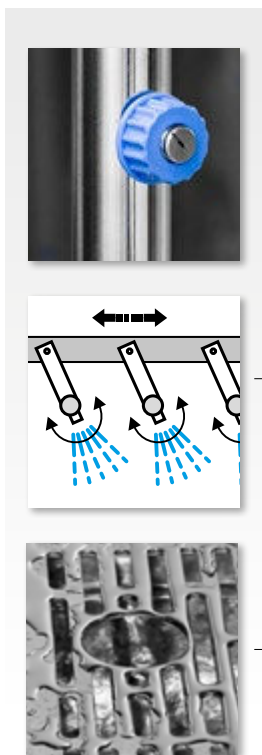
LC 80 - LC 80 BOT - washing chamber features

Door made of double HST tempered glass or of stainless steel provided with inspection window.
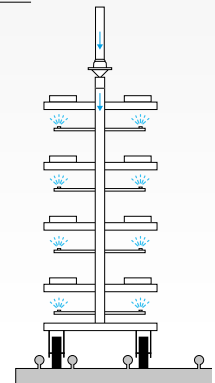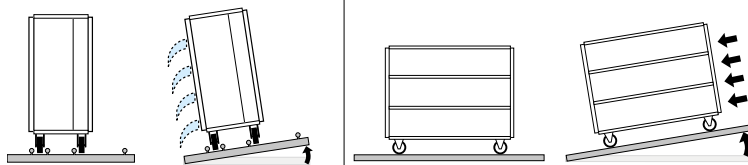
Multiple oscillating pipes with stainless steel nozzles give excellent washing result.

The automatic manifold system for trolley docking allows water connection for trolleys provided with spray arms and injection systems.

Spray nozzles are also positioned under the loading floor ensuring washing and disinfection at the bottom of items.

The lateral tilting of the rails allows water to drip for a faster drying phase.
The longitudinal tilting of the rails, at the end of the cycle, makes the unloading of trolleys easier.

A safety block ensures proper positioning of the washing cart.
A magnetic sensor enables the operation of the connection manifold.

LC 80 - LC 80 BOT - Key features

- Available in **single door** or **double door pass-through** versions.
- Washing chamber made of stainless steel mirror polished AISI 316L.
- External body made of stainless steel AISI 304.
- Washing and DI water temperature isfully adjustable up to 93°C/199°F with independent temperature monitoring.
- Vertically installed self flush stainless steel washing pump with pressure control.
- Steam heated, electrical drying.
- Double drying units, up to 1000 m³/h capacity.
- Two automatic detergent dispensers with flowmeter and level control.
- Flush self cleaning filter for the recirculation of the washing water.
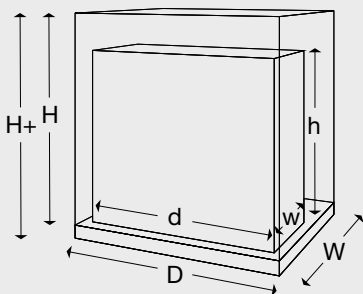- SteelcoTronic touch screen control panel.

Custom special configuration:
double chambered cart washer with separate washing and drying chambers for extra fast reprocessing of manually or robot loaded carts

Main optional features

- Electrical heated 111 kW or 201 kW power
- Steam heated drying system
- 3rd pre heating tank (steam or electrical)
- Trolley connection manifold
- Analogic sensor on washing circuit for pressure check (registered data)
- Fully automatic washing trolley loading and unloading

- Water recycling system
- 3rd chemical dosing pump
- Conductivity sensor
- Drain pump system

- Drain cooling system
- HEPA H14 air filters
- Steam condenser
- Turbo drying system
- Exhaust air fan
- Built-in printer for cycle validation and traceability

- Trolley loading/unloading ramps
- SteelcoData supervisor software
- Bar code reader
- 2100 mm door passage height
- Light into the chamber

Washers dimensions

LC 80		external dimensions				washing chamber useful dimensions			
		W	D	H	H+	w	d	h	volume
2.25m chamber	mm	2500	2550	2260	2410	1000	**2250**	1890	4.8 m³
	inches	98.42	100.39	88.97	94.88	39.37	**88.58**	74.41	169.5 ft³
3m chamber	mm	2500	3300	2260	2410	1000	**3000**	1890	6.5 m³
	inches	98.42	129.92	88.97	94.88	39.37	**118.11**	74.41	229.5 ft³
4.5m chamber	mm	2500	4800	2260	*	1000	**4500**	1890	9.6 m³
	inches	98.42	189.00	88.97	*	39.37	**177.16**	74.41	339.0 ft³

LC 80 BOT		external dimensions				washing chamber useful dimensions			
		W	D	H	H+	w	d	h	volume
2.25m chamber	mm	2900	2550	2260	2410	1200	**2250**	1890	5.1 m³
	inches	114.17	100.39	88.97	94.88	47.24	**88.58**	74.41	180.1 ft³
3m chamber	mm	2900	3300	2260	2410	1200	**3000**	1890	6.8 m³
	inches	114.17	129.92	88.97	94.88	47.24	**118.11**	74.41	240.1 ft³
4.5m chamber	mm	2900	4800	2260	*	1200	**4500**	1890	10.2 m³
	inches	114.17	189.00	88.97	*	47.24	**177.16**	74.41	360.2 ft³

The device can be installed on the floor with small ramps, or into a pit for floor level loading.
*Pit according to site requirements.

Steelco trolley washers are of modular design, enabling access through exixting buildings.

LC 80 -LC 80 BOT - loading/unloading automations

Automation for bed frames
loading/unloading.

Automation for transport trolley
loading/unloading.

Lifting platforms

The need for a deep pit traditionally has caused difficulties in the refurbishment of existing facilities. **"Lifting Platform" is a range of solutions and custom applications** that Steelco offers to solve these problems.

Steelco lifting platforms assure the **same ergonomics and operator safety** as a pit installed washer disinfector but...
with a reduced pit or **without the need of a pit**.

...easy trolley loading
for pit-less solutions

+ Easy installation
+ Ergonomy
+ Safety

All the risks connected to the handling of a **heavy loaded washing trolley** on inclined loading ramps are avoided and the installation of a trolley washer is now also possible with level load access.

Lifted platform

Miele Group Member

ARES - flexible endoscope automated reprocessing system

Steam sterilizing autoclaves

Laboratory glassware washer disinfectors

Dental washer disinfectors

Washer disinfectors for central of sterilization departments

Flusher disinfectors

Washing and sterilizing systems for lifescience and pharmaceutical applications

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* Only for products listed into the 909/MDD certificate

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