

LC 80

Trolley, sterile containers, bed frames and operating tables washer disinfectors



LC 80 is a large capacity washer disinfectant dedicated to the treatment of transport, storage and waste trolleys. The machine can also treat instrument containers and lids, op. shoes, plastic crates or other bulky items with dedicated presentation racks.

LC 80 BOT models, with their special chamber execution are suitable for disinfecting operating tables and bed frames too.

These washer disinfectors offer a complete cleaning, thermal disinfection treatment through high flow recirculation pumps and high speed blowers for forced air drying.

The machines can be equipped with a manifold system for trolley docking allowing water connection for trolleys provided with spray arms or injection washing systems.



Models

LC 80/2: 2250mm (88.58") chamber depth, 1000mm (39.37") access door width

LC 80/3: 3000mm (118.11") chamber depth, 1000mm (39.37") access door width

LC 80/2 BOT: 2250mm (88.58") chamber depth, 1200mm (47.24") access door width

LC 80/3 BOT: 3000mm (118.11") chamber depth, 1200mm (47.24") access door width

Versions

Steelco LC 80 is available in **single door** or **double door** for pass-through barrier installation.

Manual lateral sliding door/doors

Made of stainless steel with inspection window

Automatic lateral sliding door/doors

Made of stainless steel with inspection window

or, to ease cycle monitoring,

in high visibility full glass door version.



Specifications

For this machine the standard installation is into a 150mm (5.90") deep pit in order to obtain a floor level loading. The machine can also be installed on the floor and the trolley loading/unloading operations can be assisted by ramps or by automatic lifting platforms.

Dimensions:

LC 80/2 External WxDxH:

2500mm x 2550mm x 2410mm (2260 pit installation)
98.42" x 100.39" x 96.06" (88.98" pit installation)

Chamber WxDxH:

1190mm x 2250mm x 2150mm
46.85" x 88.58" x 84.65"

Door passage WxH:

1000mm x 1890mm
39.37" x 74.40"

LC 80/3 External WxDxH:

2500mm x 3300mm x 2410mm (2260 pit installation)
98.42" x 129.92" x 96.06" (88.98" pit installation)

Chamber WxDxH:

1190mm x 3000mm x 2150mm
46.85" x 118.11" x 84.65"

Door passage WxH:

1000mm x 1890mm
39.37" x 74.40"

LC 80/2 BOT External WxDxH:

2900mm x 2550mm x 2410mm (2260 pit installation)
114.17" x 100.39" x 96.06" (88.98" pit installation)

Chamber WxDxH:

1390mm x 2250mm x 2150mm
54.72" x 88.58" x 84.65"

Door passage WxH:

1200mm x 1890mm
47.24" x 74.40"

LC 80/3 BOT External WxDxH:

2900mm x 3300mm x 2410mm (2260 pit installation)
114.17" x 129.92" x 96.06" (88.98" pit installation)

Chamber WxDxH:

1390mm x 3000mm x 2150mm
54.72" x 118.11" x 84.65"

Door passage WxH:

1200mm x 1890mm
47.24" x 74.40"



Cycles:

Up to 65 washing/disinfection programs:
10 pre-programmed, 50 user defined, 5 service

Drying:

Forced hot air drying system.

Dosing:

Automatic chemical dosing via peristaltic pumps

Sound level:

< 70 dB (A)

Certifications

CE certified machine following the 93/42/CEE directive, IIb class and tested following the ISO 15883-1/2, CEN ISO/TS 15883-5 and HTM 2030.

Standard features

Sliding doors

- Stainless steel AISI 316L (DIN 1.4404) washing chamber side, stainless steel AISI 304 external side.
- Left or right side opening
- Fully insulated to reduce heat loss and noise.
- Double HST glass inspection window.
- Interlocked doors (double door pass through version)

Loading floor

- The loading floor is made of AISI 316 stainless steel and composed by sections that can be easily lifted to reach the bottom of the washing chamber for cleaning and filter maintenance.
- The loading floor is standard equipped with rail guides and with a tilting system allowing:
 - side tilting for trolley water dripping allowing a faster and easier trolley drying
 - Longitudinal tilting at the end of the washing cycle to ease trolley unloading

Pre heating tanks

- Two (2) AISI 316L stainless steel pre-heating tanks with capacity of 320lt (85 gal.US) for pre washing and washing phases water and 220lt (58 gal.US) for washing and rinsing phase water
- Pre heating tanks are equipped with:
 - air break water filling
 - volume control
 - maximum level sensor
 - overflow drain
 - steam heat exchanger “coil type” 100 kg/h at 3 bar g (220 lb/h at 43.51 psi g)
 - temperature probe
 - recirculation pump to avoid water stratification

Washing system

- Multiple vertically mounted oscillating arms on both sides of the chamber equipped with spraying nozzle granting full washing chamber/load coverage.
- Dedicated spray nozzles at the top of washing chamber ceiling.
- Dedicated spray nozzles at the loading floor in order to reach washing load from the bottom.
- Easily disassemble spraying nozzles for cleaning and maintenance

Recirculation pump

- 3000W power pump unit, 1100 l/min (290 gal.US/min) flow

Washing circuit check pressure device (switch)

- To monitor washing pump operation

Recirculation heating system

- steam heat exchanger “coil type” 150 kg/h at 3 bar g (330 lb/h at 43.51 psi g)

Thermodisinfection

- Thermodisinfection is achieved by gaining the temperature up to 93°C (200°F) and with its holding for a programmable time.
- Thermodisinfection temperature is checked by means of 2 PT1000 independent probes.

Filtering system

- Filtration system to capture residues 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
- Total power configuration can be adjusted to customer requests

Chemical dosing

- Two (2) peristaltic pumps provide precise addition of liquid chemical agents.
- Flow meters for accurate volumetric dosing.
- Chemical product check with minimum level alarm.

Gravity drop drain

- Solenoid valve to discharge wastewater to floor level drain.

Forced hot air drying system

- Independent filtered high speed hot air circulation in the chamber through dedicated ventilation holes and through washing arms and nozzles.
- Heating elements provide up to 140°C (284°F) air near heating elements
- Dual 7.8 kW air heating elements
- Dual 2.2 kW blowers, up to 500 m³/h (17657 ft³/h) each
- Dual F5 (EN 779) pre filter

Microprocessor control system

PLC microprocessor with auto diagnosis function for real time monitoring of the machine installed devices: water level sensors, pressure transducers, temperature probes....

Network connection

- USB port for printer connection to monitor and validate washing cycle
- Ethernet connection.
- Compatible with SteelcoData software for remote monitoring and data management.

HMI - User interface

- Touch screen control panel, 5.7" color LCD display (loading side)
- Touch screen control panel, 4" monochrome LCD display (unloading side)
- Complete indication of machine functioning: cycle phase, time, temperature, chemical dosing, water quantity, drying.
- Three password protected security levels
- Possibility of up to 65 storable programs
 - 10 standard pre programmed
 - 50 additional for customer setting
 - 5 service programs
- Audible and visual alarms provide quality control for each wash cycle

Safety features

Locking Door

- Prevents interference with wash cycle once the machine is in operation.
- Interlocked doors (pass through version) to avoid contamination risks between CSSD dirty and clean sides.

Main power on/off switch

- Can be used to shut off the power to the control system

Man on board safety cable

Energy saving optional features

Water recycling system

The system pumps the water used for the final rinse into an additional pre heated tank. This water can be used for next cycle pre wash phase (other configurations are possible).

The system is composed by:

- 3rd water tank (can be steam or electrical elements heated)
 - volume control
 - maximum level sensor
 - overflow drain
 - steam heat exchanger
 - temperature probe
 - recirculation pump to avoid water stratification
 - water recycling pump

Water recycling pump

- For washing chamber sump water recovery
- Allows other water/heat recycling combinations

Drain water heat recovery

- Heats incoming water with hot drain water

Optional features

Full glass door

- Full visibility double HST glass door.

2100 mm chamber useful height (LC 80/2 and LC 80/3 models only)

- Door passage WxH:
1000mm x 2100mm
39.37" x 82.68"

Manifold system for trolley docking

- Allowing water connection for trolleys provided with spray arms or injection washing systems

Independent rinsing system

- Multiple horizontally mounted oscillating arms on both sides of the chamber equipped with spraying nozzle granting full washing chamber/load coverage.
- Easily disassemble spraying nozzles for cleaning and maintenance
- Recirculation pump
- 1500W power pump unit, 1100 l/min (290 gal.US/min) flow

Electrical recirculation heating

- Power 108kW

Electrical tank heating

- Power 36kW (320lt tank (85 gal.US))
- Power 18kW (220lt tank(58 gal.US))

High power electric heating machine

- Electrical recirculation heating power 144kW
- Power 36kW (320lt tank (85 gal.US))
- Power 18kW (220lt tank(58 gal.US))

Analogic pressure sensor

- To monitor washing process and its repeatability

Conductivity sensor

- Accurate measuring of the conductivity value during the final rinse

Additional dosing pump

- One (1) additional peristaltic pump for dosing an additional type of chemical to meet specific wash requirements (rinse aid to improve the drying results on the treated items)
- Equipped with flowmeter control

Drain pump

Drain cooling solenoid valve

Steam heated drying

Exhaust air suction system

- Steam condenser and cooling system

Air tightness

- For total sealing pass-through machine installation

HEPA filtration

- HEPA H14 filter with global efficiency M.P.P.S. 99,995% (EN 1822)

SteelcoData software

Steelco Supervisor software

- For machine remote control

Barcode reader

Printer

- Integrated printer for validating washing phases with detailed information
- Installed on the clean side

Light in the chamber

- To ease washing cycle monitoring.

Loading/unloading ramps

Loading/unloading lifting platforms

Stainless steel loading guiding rails

Stainless steel panels

- For the integration of the equipment on installation site

Programming and cycle operation

The user is able to create unique programs to meet their specific needs. Listed are various phases that can be programmed and repeated into various combinations.

- **Pre-Wash** - The user is able to define the length and temperature of pre-wash. Cold or warm pre wash (above 35°C (95°F)) can be configured accordingly to the items to be reprocessed.
- **Wash** – The user is able to define the length of the wash cycle, detergent dosing, temperature of the water (up to 93°C (200°F)).
- **Neutralization** – The user is able to select the length of the rinse, the presence and the amount of neutralizer, temperature of the rinse (up to 93°C (200°F)).
- **DI Rinse** – The user can define the length of the DI rinse, temperature of the water (up to 93°C (200°F)) presence and amount of rinse aid.
- **Drying** – programmable between low speed and high speed drying and up to a temperature of 140°C (284°F) near heating elements.

Water sources selection and chemical dosing temperature are other available parameters.

Construction

The machine has been designed to be disassembled into sections for entry into existing building

Wash Chamber and Door

- Constructed using AISI 316L (DIN 1.4404) stainless steel BA Ra<30µm (Ra<0.8µm) finish
- Designed and constructed with smooth edges and corners removing areas where dirt can accumulate and allow bacterial growth.

Exterior

- AISI 304 Scotch Brite finish Ra<40µm (Ra<1.2µm)

Components

- Constructed using stainless steel and other materials which are resistant against the effects of aggressive detergents

Insulation

- High performance melamine insulation 15mm (0.6”) thick guards against heat loss and reduces noise level

Accessories

A large variety of loading trolleys

Validation support documentation and services

Installation Qualification and Operational Qualification (IQ/OQ) testing can be executed at the customer site.

Required utilities

For connection details please refer to installation drawing of the selected model/version.

Hot water

Cold Water

DI Water

Steam feed (when config. requires)

Steam condensate return (when config. requires)

Compressed air

Drain Connection

Exhaust air connection

Electrical requirements

- **Total power**
 - 20 kW + 350 kg/h steam (standard machine)
 - 111 kW (electric heating machine)
 - 201 kW (high power full electric heating machine)
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- 400V/3~+N/50Hz
- 480V/3~+N/60Hz
- other electrical connections are available to match electrical requirements of installation site.
- UL components version available