

# Washer disinfectors

CSSD Range - Systems and Automations



**Steelco**  
devoted to hygiene



“For the Environmentally conscious”



# Washer disinfectors

## CSSD Range - Systems and Automations

The main advantages of the treatment of reusable medical instruments in a Central Sterilization Supply Department (CSSD) are in terms of **safety**, because the operations are carried out by trained, experienced and infection control specialized personnel, of **economy**, because of reduced personnel need and fast return of the investment, and of **reduced environmental impact**.

Our systems and automations are designed to fulfil all customer expectations such as increasing staff productivity, saving time, water and energy consumption thus helping to create the basis for a long lasting satisfying experience.

Steelco can provide a full system planning Service to support CSSD team Managers in customizing lay-out configuration for new or restructured projects.

Unique automatic customized CSSD solution for a complete washing disinfection area.

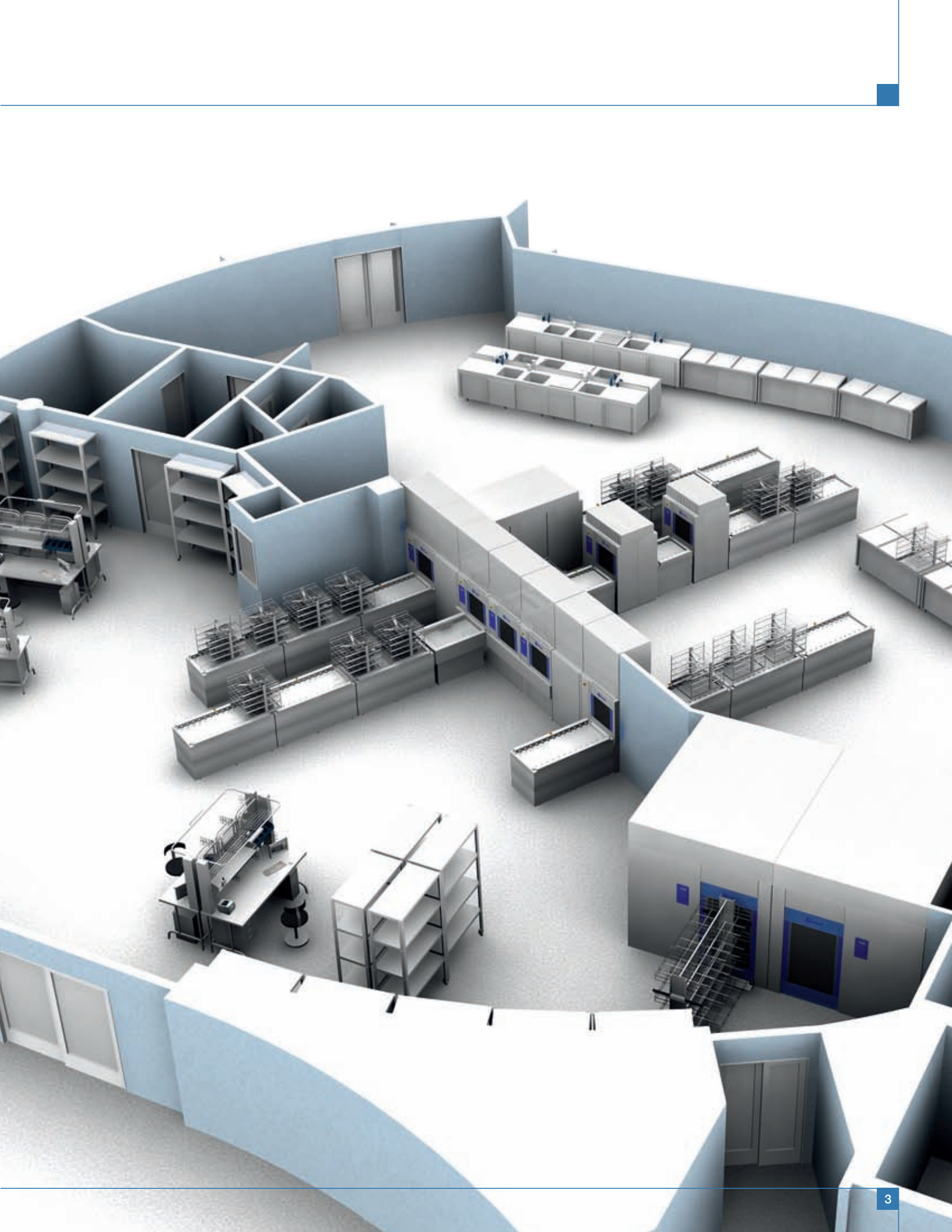
This system provides a new solution for decontamination, it includes ultrasonic treatments of surgical instruments and is compliant with European and UK guidelines on decontamination.



This solution, realised through the use of a patented rotating table, shows how Steelco Service Planning solved, in a restricted processing department, the treatment of sanitary materials, including the ultrasonic treatment of surgical instruments.









# Washer disinfectors

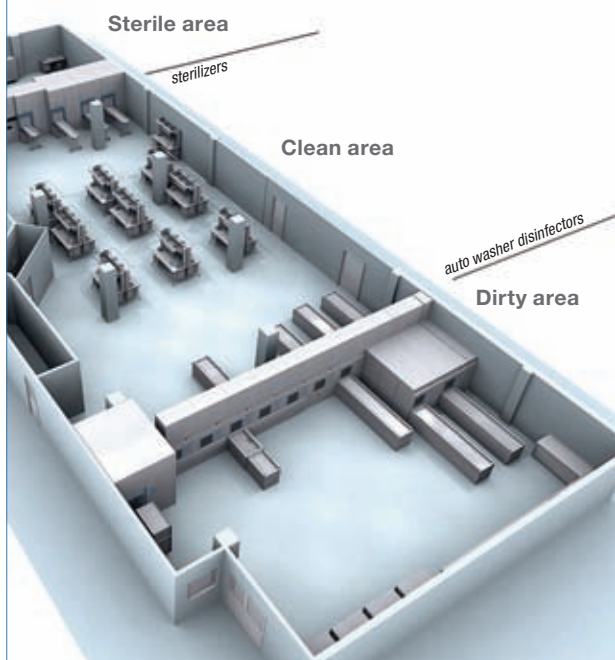
## CSSD Range - Systems and Automations

### Pass-through washer disinfectors

All the washer-disinfectors of the Steelco CSSD range are **available in single or in double door pass-through versions**.

The separation between the dirty area, where soiled goods are collected, and the clean area where washed and disinfected instruments are inspected, sorted and packed, is realized by a high throughput pass-through washer disinfectors barrier.

Treated instruments are unloaded and managed directly in the clean packing area by different staff.



- > DS 650
- > DS 700

10 DIN 1/1 trays  
washer disinfectors

- > DS 750
- > DS 800
- > DS 800 3S



10 DIN 1/1 trays  
washer disinfectors

### Standard compliant

Steelco Washer-Disinfectors are designed and constructed to comply with the latest European and UK guidelines on decontamination. EN ISO 15883-1/2, CEN ISO/TS 15883-5 and HTM 2030  
Steelco Washer-Disinfectors are classified CE Medical Device (Community rule 93/42/CEE) code nr. 0051.





"For the Environmentally conscious"



### Fast Cycle washer disinfectors

Steelco CSSD washer disinfectors combining the energy saving concept with the highest standard cleaning and drying performance in a very short cycle time.



ATS automatic transfer systems for efficient machine load distribution available

- > DS 900
- > DS 1000
- > DS 1000 3S



18 DIN 1/1 trays  
washer disinfectors

- > US 1000

18 DIN 1/1 trays  
ultrasonic washer

- > TW 3000

18 DIN 1/1 trays  
multi chamber compartment  
washer disinfectant

- > LC 80
- > LC 80 BOT

trolleys, sterile containers, bed  
frames and operating tables  
washer disinfectant

Other medical range Steelco products:

ARES  
Endoscope Reprocessing System



Washer disinfectors  
Small/Medium Range







## Cleaning effectiveness

The **Mechanical** action is one of the main elements for the cleaning effectiveness of the washing process, Steelco has studied different washing pumps for the wash circuit of each individual model to ensure highest flow rate combined with efficient spray pressure.

According to internal procedures an ultrasonic cleaning unit can be used to support manual cleaning to remove biological debris in the most intricate shapes and cavities before the washing disinfection process.

### Washing chamber

Washing chamber, washing arms, preheating tanks and triple stage water filtering system filters are made of high quality AISI 316L stainless steel (DIN 1.4404).

A low friction bearing eases chamber and cart washing arms rotation for an improved efficiency of the washing and drying phases. The spray arms are removable and the internal surface can be cleaned by easy access hinged caps at the ends. Both operations can be done by hand and do not require any disassembling tool.

Washing chamber is designed and constructed with smooth edges and corners, removing areas where dirt can accumulate and allow bacterial growth.



### Ultrasonic cleaning

Ultrasonic cleaning acts on immersed surfaces thousands times a second to insure perfect cleanliness even on the most intricate shapes.

Ultrasonic cleaning is safe for the most delicate and highly finished objects since there are no abrasives or harsh chemicals used and does not create scratches which would create cleaning problems later.

Steelco ultrasonic treatment devices are designed for full integration in automated CSSD solutions (US 1000 model) or as stand alone units (US 100 - US 200 series).



## Improvements and innovations

Constant improvements and innovations lead our products to run economically and reach a higher level of environment compatibility. Energy and water consumption reduction has always been a major priority for Steelco product development as confirmed by the new Fast Cycle generation technology washer disinfectors.



The washing chamber of the machines is "clean", no unneeded fixing screws, motorized wheels, gaps between mechanical parts to avoid recesses where dirt can accumulate and allow bacterial growth and prevent any potential issues that can lead to a machine stop.

The rounded edges self cleaning sump features a triple water filtering system to capture residues so that they do not recirculate thus increasing pump life.

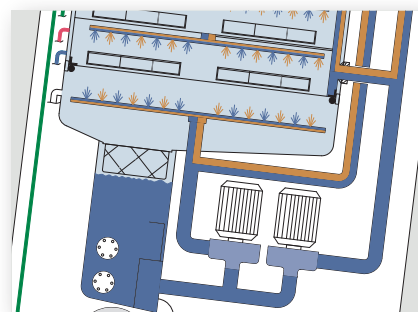
Water sump level is checked by a volumetric system which allow the economising on cycle consumption.



Steelco CSSD range washer disinfectors feature double wall construction and thorough acoustic and thermal insulation to reduce heat loss and electricity consumption. External cabinet made of AISI 304 stainless steel (DIN 1.4301).

Water coupling system distributes water to the racks washing arms and nozzles for efficient cleaning and uniform disinfection temperature coverage.

Controls are available for continuous monitoring of washing, rinsing and thermal disinfection processes using pressure checking devices and washing arms rotation sensors.



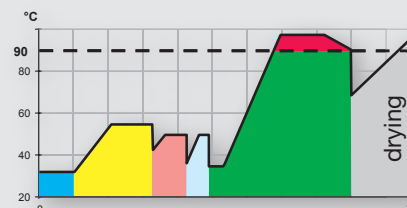
Two independent powerful re-circulating water pumps feed separate washing circuits: washing chamber spray arms and the wash cart injection system.

This design allows high flexibility in the machine management. Washing circuits can be adapted to specific racks optimizing the water pressure and flow rate. The washing cycle of noncritical items such as containers or shoes can be efficiently performed with one washing circuit and pump reducing water and energy consumption and extending the life of the inactive pump.

## Thermal disinfection

Thermal disinfection is the recommended and most efficient method for the disinfection of reusable medical devices. European guidelines strongly recommend thermidisinfection to be applied whenever it is possible. In order to satisfy all enquiries of laws regarding thermidisinfection in the different countries, thermidisinfection is achieved by gaining the temperature up to 93°C and with its holding for a programmable time, variable for each single cycle depending on different items to riprocess.

Thermidisinfection temperature is checked by means of 2 PT1000 independent probes.





## Drying: a primary importance phase

Proper drying is a fundamental guideline requirement and the specific phase can affect up to 15% of total process cycle duration of a conventional washer disinfecter and up to 30% of a Fast Cycle washer disinfecter.

Steelco efficient hot air drying system design facilitates the total elimination of remaining water both inside and outside of the instruments. The unique Turbo drying feature is a relevant aid in saving energy and reducing drying time.

Every detail of washing and drying circuits has been optimized for the best performances.

Process valves, piping and blower are designed for the least resistance in the system and for the highest water and air flow into the chamber and through the carts.

High performance blowers are electronically controlled to adjust blowing speed to get the proper drying results.

### Turbo Drying

The Steelco Turbo Drying system controls drying air inlet for a HEPA filtered hot air recirculation inside washing chamber.

Air recirculation creates high turbulence air flow inside the chamber thus reducing the drying times and, as a result, energy and HEPA filter consumption.



## Cart recognition system

Automatic identification of the wash cart type for the related reprocessing cycle selection.

Sensor for the correct positioning of the basket.

Start cycle through an automatic reading of magnetic code.

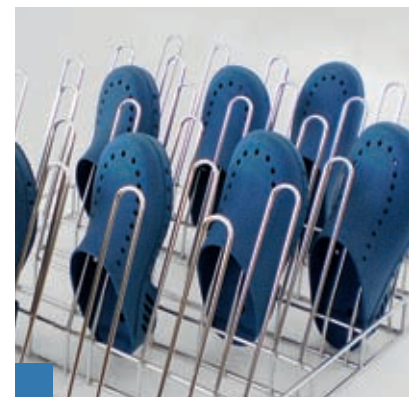
Thanks to the automatic cart recognition system all machine parameters and washing cycles are optimized, the end user job is really simplified and any human error is drastically reduced.



## Trolleys, cart, baskets, inserts and accessories

The Steelco CSSD range offers customers a large choice of machines, loading trolleys, carts, baskets and inserts, all specifically designed to meet different end user needs.

Main applications are: Surgical instruments, MIS instruments, Anaesthesia instruments, Ophthalmology instruments, OP rubber shoes, Containers, Baby bottles...





## The Fast Cycle concept



Steelco follows the ever more growing Customer demand for washer disinfectors which can combine high standard cleaning and drying results with working efficiency and very short cycle time.  
(DS 800 and DS 1000 Fast Cycle configuration machines)

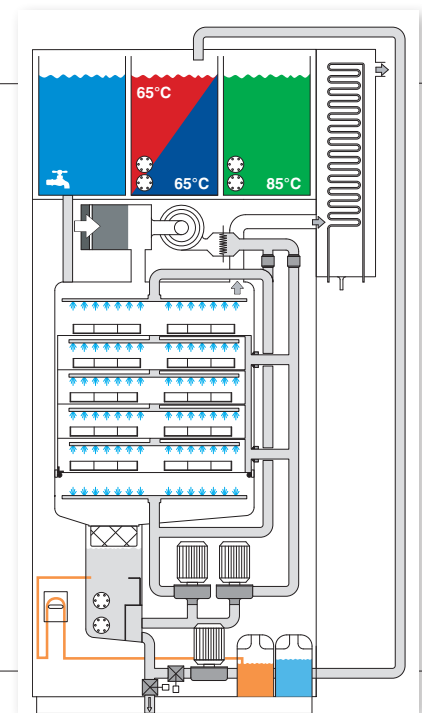
### Key features of the fast cycle machines:



**Save time** - big capacity pre-heating tanks directly connected through large valves, into the washing chamber, grant effective results in reducing cycle time.

**Save water** - the water recirculation tank grants the recycling of the disinfection water into the next washing cycle with the reduction of energy and water consumption.

**Save energy** - cycle time reduction and thermal insulation.



### Fast cycle facts

Steelco fast cycle machines can be configured to perform **a complete and validated** instrument washing, disinfection and drying **cycle in only 30 minutes**.

water

-25%

energy

-40%

time

-50%



Focused on the environment care theme Steelco has greatly improved working efficiency with the reduction of energy consumption due to cycle time reduction, heat exchanging and thermal insulation.

## 1, 2, or 3 tank configurations applied to a 5 phases fast cycle

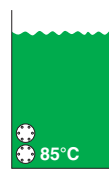
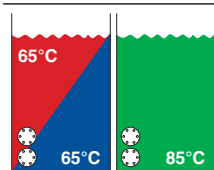
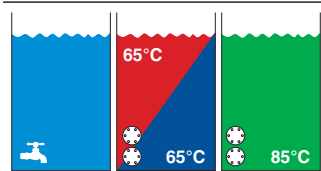
Steelco fast cycle machines tank configuration can vary in numbers, function and heating temperatures to best suit customer procedures.

The following table shows examples of a 5 phase fast cycle configuration. Temperatures are referred to pre heating tanks, higher temperatures up to 93°C/199°F are then reached by sump heating.

- |   |                                   |
|---|-----------------------------------|
| 1 | cold water pre-wash phase         |
| 2 | warm water wash phase             |
| 3 | warm water rinsing phase          |
| 4 | DI water thermoisinfection phase  |
| 5 | forced hot air Turbo drying phase |

### tanks

### functional description

	<p>The pre heated 85 °C / 185 °F demineralized water tank allows to radically reduce thermoisinfection process time and consequently total cycle time. Pre heated demineralized water flows directly with the shortest possible connection to the washing chamber without pump activity and minimizing heat loss.</p>
	<p>The pre heated 65 °C / 149 °F hot water washing tank allows to reduce washing process time and consequently total cycle time.</p> <p>The same tank is then used to pre heat the rinsing water while the machine is performing the washing phase. Saving heating time avoids washing chamber to cool down thus reducing energy loss.</p> <p>The pre heated 85 °C / 185 °F demineralized water tank allows to radically reduce thermoisinfection process time and consequently total cycle time. Pre heated demineralized water flows directly with the shortest possible connection to the washing chamber without pump activity and minimizing heat loss.</p>
	<p>The needed amount of pre wash cold water flows from the first tank directly to the washing chamber rapidly and without any pump activity.</p> <p>The pre heated 65 °C / 149 °F hot water washing tank cuts down "in chamber" water heating time allowing to reduce washing process time and consequently total cycle time.</p> <p>The same tank is then used to pre heat the rinsing water while the machine is performing the washing phase. Saving heating time avoids washing chamber to cool down thus reducing energy loss.</p> <p>Following customer procedures, <b>pre heated rinsing water can be recycled</b> from the previous cycle thermoisinfection water thus <b>adding a significant energy, water and time saving</b>.</p> <p>The pre heated 85 °C / 185 °F demineralized water tank allows to radically reduce thermoisinfection process time and consequently total cycle time. Pre heated demineralized water flows directly with the shortest possible connection to the washing chamber without pump activity and minimizing heat loss.</p>

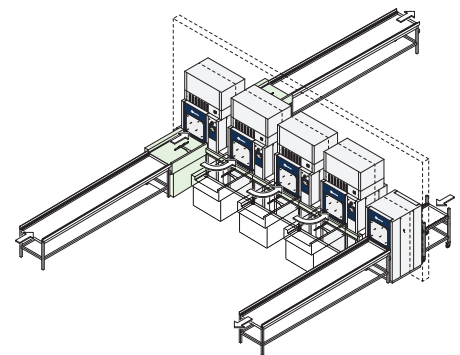




## high throughput, energy and space saving solutions

### ATS Automatic Transfer System

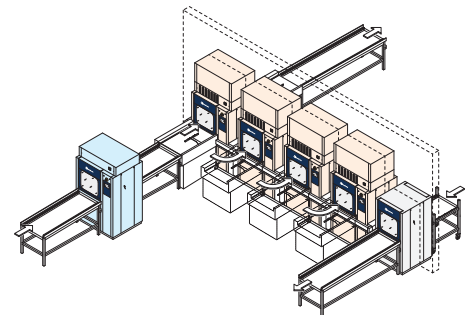
A specially designed automation for the processing departments where time is critical. A shuttle loader moves along the front of the soiled side of the washer disinfectors and loads the racks automatically into the first available washer. Once the items have gone through the washing cycle, another ATS unloads the treated racks along the clean side and transfers them to a storage station ready for inspection and packaging. The relevant washing program is processor controlled according to the individual rack specifications.



### Separating Cold and Hot washing cycle phases

In terms of process efficiency, it is particularly convenient to designate one unit to the specific cold pre-wash phase.

Besides reducing process total time, it is possible to realize important energy savings because it avoids cold water loading in the washing chambers of the machines involved in the washing, thermo-disinfection and drying phases.



**ATS**  
Automatic Transfer System

### Rotating ATS

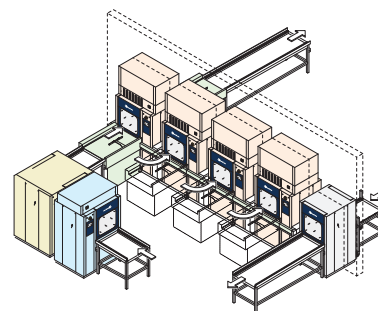
Steelco new rotating ATS shuttle allows 90° loading and/or unloading configurations, an effective solution for barrier application of washer disinfectors in narrow and "L" shaped facilities. With rotating ATS system the distance from walls or pillars can be reduced.





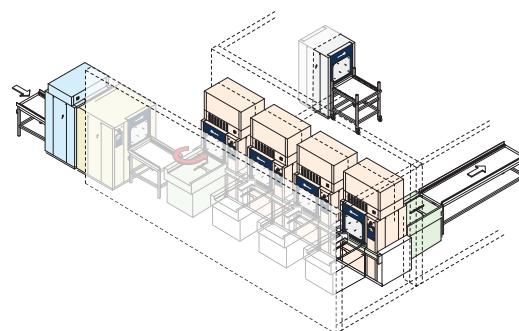
### Reducing manual pre processing operations

According to internal procedures an ultrasonic cleaning unit can be used as an alternative support to the manual cleaning to remove biological debris in the most intricate shapes and cavities before the washing/disinfection process. Steelco ultrasonic treatment device US 1000 is designed for full integration in automated CSSD solutions.



### Managing the restricted space challenge

Steelco offers the most innovative automation solutions for the washing and disinfection areas of a sterilization central. Steelco's automatic devices, such as the motorized rotating table and the ATS shuttle allow compact footprint layouts respecting accessibility and maintenance spaces. The highest level of flexibility is reached with the new rotating ATS shuttle. The experience in the transfer and storing table dimensioning elevates the value of Steelco solutions.



## Cart loading systems

Steelco components and accessories range, useful for a better efficiency in the CSSD, includes also transfer and storing tables, motorized transport carts with adjustable and memorized heights, transport conveyors and pass-through hatches.





## Control system

Steelcotronic Control System, with its auto-diagnostics constantly monitors and displays current cycle status and alarms. It allows the user to optimise the washing process and to personalize on board programmes in the machine.

It assures, moreover, the traceability of the principal validated parameters as requested from the European rules regarding the processing of reusable items.



STEELCOTRONIC microprocessor control systems are available in several versions to best suit customer needs. Different size control panel display interfaces are dedicated to programming and monitoring of a single stand alone machine up to more complex systems.

Control panels allow up to 100 memorized washing and disinfection programmes. A set of standard programs is available for Surgical instruments, MIS instruments, Anaesthesia instruments, Ophthalmology instruments, OP rubber shoes, Containers, Baby bottles...

Control panel access is protected by 3 passwords for the installer, maintenance technician and end user.

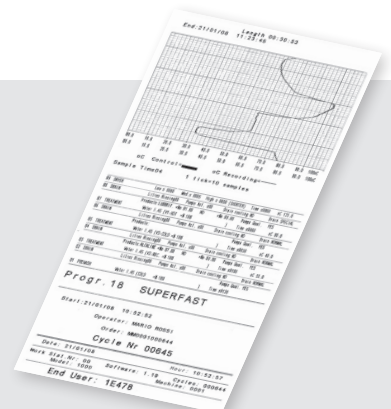
Operator identification is requested to enable the washing cycle programming or their own start.

## Print reports and historical cycle data

During every washing cycle the machine software generates a report that can be printed, stored or transferred to a hospital server connected via RS232 or ethernet port.

All critical parameters are registered, in particular:

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





## Main Features

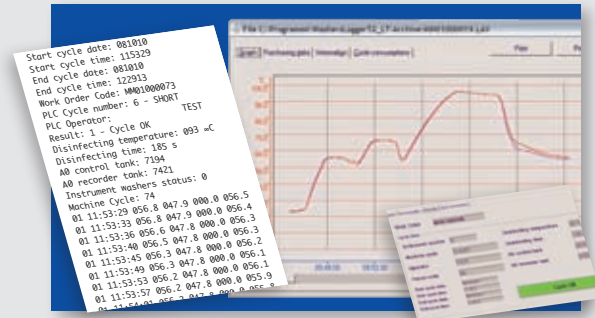
Steelcodata is a powerful software package with a very easy and complete operator interface. Its aim is mainly to **visualize the running cycles, to easily manage and store the information** generated by other devices configured in the system and also allows the **immediate remote monitoring of the machines**.

It is available for Windows and the connection is made through the Ethernet in order to ensure full transparency and compatibility with the customer resources, keeping all the cycle data stored for legal purposes and for statistics visualization.



## Complete storage of the registered data

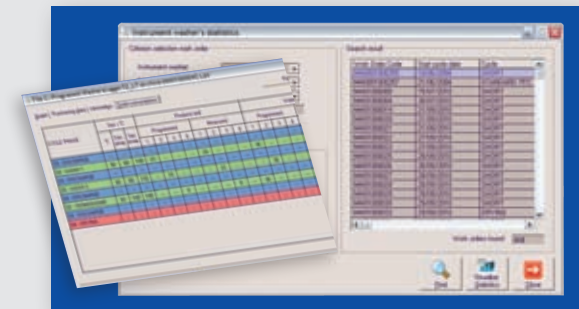
Every 4 seconds the Steelcodata collects all the registered records from each device and processes them by **providing a, visual information summary which can immediately be interpreted by the operator**. All data even if not visualized on the summary display, will be available for **local back up or remote back up into the hospital server**. In the event of any connection interruption with the server, the devices can continue to operate and all the records will be automatically transferred when the communication is restored.



## Cycle consumptions and statistic functions

Specific screens are dedicated to the information on **cycle consumption** of water, chemical products and alarm history. Steelcodata can work simultaneously with several opened windows thus allowing an **immediate visual comparison of the data and charts** from different machines.

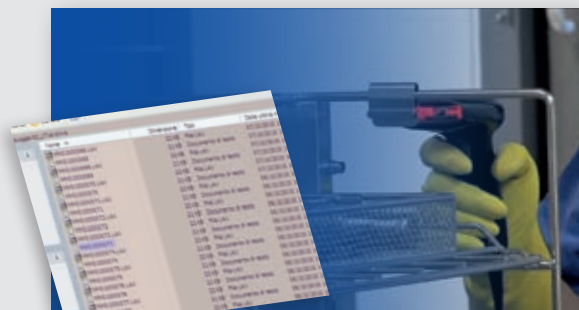
A specific menu is dedicated to statistical functions in order to search and control cycles and reprocessed loads.



## Information security

The Steelcodata software makes accessible to the operator the main data of the executed washing cycles, allowing to select and export them in 2 different formats, one that cannot be modified and only for legal use, and the other one for management and traceability systems compatibility.

Steelcodata allows to print on a normal A4 page printer and directly generates PDF documents.

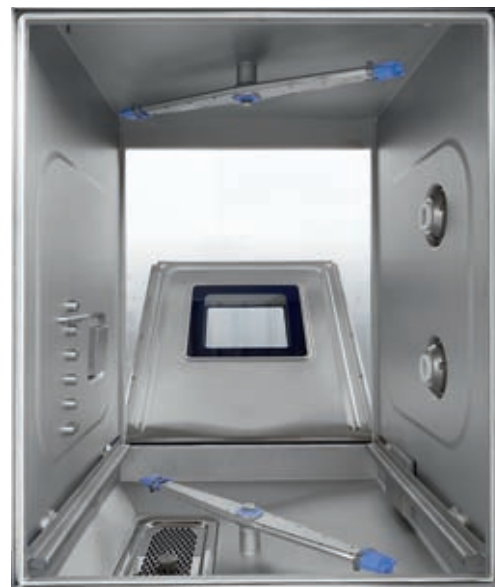




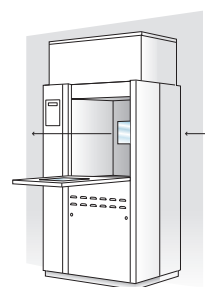
## DS 650 - DS 700 - Washer disinfectors



The evolution of a flexible integrated system for the washing, disinfection, **hot air drying** and validation of instruments used in CSSD and Surgery centres.



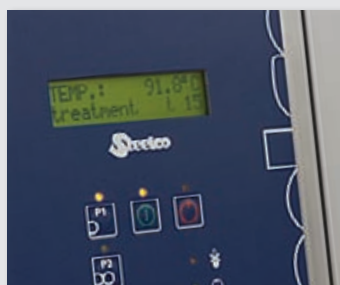
The machine grants consistently tested and **efficient washing-disinfecting performances thanks to a new washing system technology made by two vertically installed washing pumps** that also grant a complete drain of the washing circuit.



### Washing chamber



Chamber vol. ~350 lt / ~92.46 Gal US  
Wash cart vol. ~250 lt / ~66.04 Gal US



**LCD display control panel** with 20 standard factory pre set programs for surgical instruments + 20 additional programs available for customer setting. A RS 232 serial port is provided to connect a PC or printer for monitoring and validating washing phases.

Ethernet connection is available as an option.

## DS 650 - DS 700 - Key features

- Ergonomic door level height allows a convenient loading/unloading job with the support of a manual loading/unloading trolley.
- Door supplied with glass window.
- HEPA filtered H14 forced air drying system with adjustable time and temperature settings, helps to ensure the complete inside and outside drying of all the surgical instruments and tubes.
- Washing and DI disinfection temperature are fully adjustable up to 93°C/199°F.
- Temperature is monitored by two independent sensors.
- Optional steam condenser eliminates vapours from entering into the washing area.
- 2 powerful vertically installed washing pumps that ensure high flow rate combined with effective spray pressure and which also grant a complete drain of the washing circuit.
- Washing/drying injection system.
- Inner cabinet, washing arms and tank filters made of high quality AISI 316 L stainless steel.
- Triple water filtering system captures residue preventing re-circulation and extending the pump life.
- Two standard automatic liquid dispensers provided with flow meters and level control. Two more dispensers are available.
- Possibility to store up to four 5 lt. (1.35 Gal US) containers into the basement.
- RS 232 port printer connection for monitoring and validating washing phases.

### Main optional features

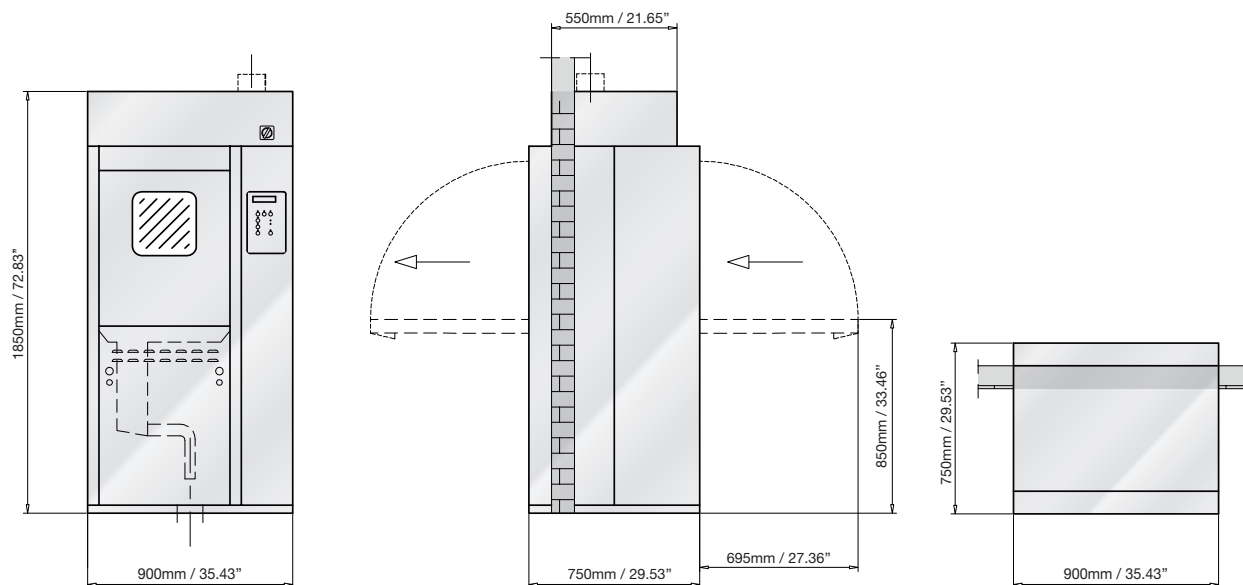
- 3<sup>rd</sup> and 4<sup>th</sup> Chemical dosing pump
- Conductivity sensor
- Boiler to pre-heat DI water
- Integrated printer ST2
- Light inside chamber
- Steam condenser
- Cart recognition system
- Ethernet connection
- Analogic sensor on washing circuit for pressure check (registered data)
- Steam or mixed heating

### Dimensions and connections

Standard electrical connection (International)	400V/3~+N/50Hz
Optional electrical connection (North America)*	208V/3~+N/60Hz or 480V/3~+N/60Hz
Power standard version**	13500 W
Pump power	900+550 W
Noise	57.5 dB(A)
Permitted room temperature	+5°C/41°F - +40°C/104°F
Dryer blower	up to 350 m³/h - 12360 ft³/h
Dryer heating	4500 W

\* other electrical connections also available as optional

\*\* with electrical heating elements - chamber steam heating or mixed heating configurations available as option



Warm water connection	¾" male	DN 20 mm
Cold water connection	¾" male	DN 20 mm
Demineralized water connection	¾" male	DN 20 mm
Chamber breather pipe	Ø 120 mm / 4.72"	

Electrical connection	
Machine drain	Ø 45 mm/1.77"
Floor drain	Ø 50 mm/1.97"





## DS 750 - DS 800 - Washer disinfectors



**DS 800 3S**  
fast cycle washer disinfectors

**DS 800**  
washer disinfectors

Designed to meet increased reprocessing needs of CSSD this washer disinfectors is available in standard or **Fast Cycle** configurations saving cycle time and reaching higher levels of energy and water savings.



### Fast Cycle versions

total cycle time reduced up to  
**30 Minutes**

The machines assure consistently tested and efficient washing-disinfecting performances thanks to a new washing system technology made by two vertical installed washing pumps that grant also a complete drain of the washing circuit.

**HEPA-filtered H14 forced air drying** distribution on double circuit grants a perfect distribution of air on all chamber parts and basket levels ensuring the complete inside and outside drying of all the surgical instruments and tubes.

Automatic motorized vertical sliding doors with safety device.

### Washing chamber



Chamber vol. ~350 lt / ~92.46 Gal US  
Wash cart vol. ~250 lt / ~66.04 Gal US

Control panels allow to optimise the washing process and the programs personalization directly on the washer.

**COLOR TOUCH SCREEN.** Up to 65 memorized washing and disinfection programmes: - 5 service programmes, - 10 fixed programmes and 50 free programmes personalized. Three password protected security levels. Ethernet connection. Compatible with SteelcoData software for remote monitoring and data management.

Alternatively equipped with **LCD display control panel** with up to 40 washing and disinfection programmes: 20 standard programs for surgical instruments and 20 additional custom programs available. RS 232 printer connection for monitoring and validating washing phases. Ethernet connection optional.



## DS 750 - DS 800 - Key features

- Ergonomic design of the door level height allows the user a convenient loading/unloading job with the support of a manual trolley or automatic loading/unloading conveyors.
- Door made of HST tempered glass.
- HEPA filtered H14 forced air drying system with adjustable time and temperature settings.
- Washing and DI disinfection temperature are fully adjustable up to 93°C/199°F.
- Temperature is monitored by two independent sensors.
- 2 powerful vertically installed washing pumps that ensure high flow rate combined with effective spray pressure and also grant a complete drain of the washing circuit.
- Washing/drying cart injection system.
- Washing cart automatic identification.
- Inner cabinet, washing arms and tank filters made of high quality AISI 316L stainless steel. External cabinet made of AISI 304 stainless steel.
- Triple water filtering system captures residue preventing re-circulation and

extending the pump life.

- Three standard automatic liquid dispensers (2 provided with flow meter and level control, 1 with level control only).
- Possibility to store up to four 5 lt. (1.32 Gal US) containers into the basement.

### Fast Cycle machines technology

- 1, 2 or 3 big capacity pre-heating tanks for effective results in reducing cycle time.
- Turbo drying with hot air recirculation.

### Main optional features

- 4<sup>th</sup> Chemical dosing pump
- Conductivity sensor
- Boiler to pre-heat DI water
- Integrated printer
- Light inside chamber
- Steam condenser
- Washing arm rotation sensors
- Bar code reader
- Analogic sensor on washing circuit for pressure check (registered data)
- Steam or mixed heating

### Dimensions and connections

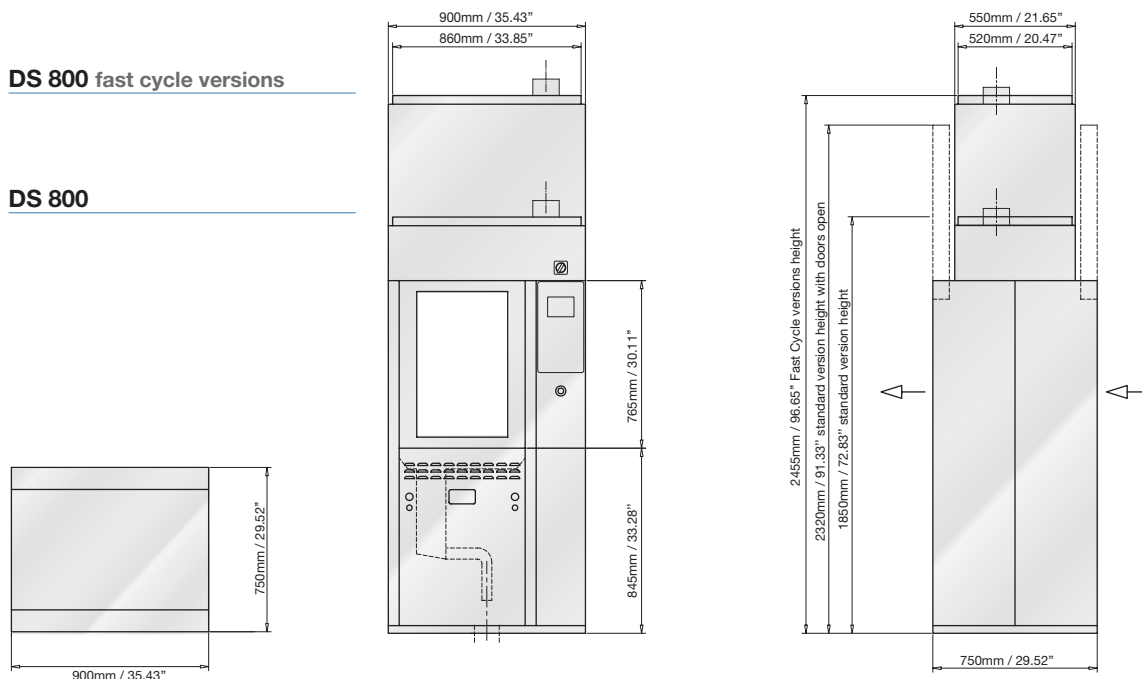
Standard electrical connection (International)	400V/3~+N/50Hz
Optional electrical connection (North America)*	208V/3~+N/60Hz or 480V/3~+N/60Hz
Power standard version**	13500 W
Power fast cycle configuration**	minimum 19500 W
Pump power	900+550 W
Noise	57.5 dB(A)
Permitted room temperature	+5°C/41°F - +40°C/104°F
Dryer blower	up to 350 m³/h - 12360 ft³/h
Dryer heating	4500 W

\* other electrical connections also available as optional

\*\* with electrical heating elements - chamber steam heating or mixed heating configurations available as option

### DS 800 fast cycle versions

### DS 800



1 Warm water connection	¾" male	DN 20 mm	5 Electrical connection	
2 Cold water connection	¾" male	DN 20 mm	9 Compressed air	¼" male
3 Demineralized water connection	¾" male	DN 20 mm	10 Machine drain	Ø 45 mm / 1.77"
4 Chamber breather pipe	Ø 120 mm / 4.72"		11 Floor drain	Ø 50 mm / 1.97"



## DS 900 - DS 1000 - Washer disinfectors



**DS 1000 3S**  
fast cycle washer disinfectant

These 18 DIN trays capacity machines are the largest Steelco washer disinfectant models designed to meet increased reprocessing needs of CSSD.

The machines assure consistently tested and efficient washing-disinfecting performances.

These models are available in standard or **Fast Cycle** configurations saving cycle time and reaching higher levels of energy and water savings.

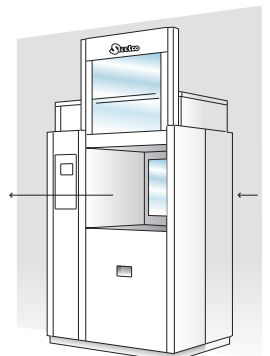


### Fast Cycle versions

*total cycle time reduced up to*  
**30 Minutes**

**HEPA-filtered H14 forced air drying** distribution on double circuit grants a perfect distribution of air on all chamber parts and basket levels ensuring the complete inside and outside drying of all the surgical instruments and tubes.

**Single door or pass-through double door version.**



## Washing chamber



**18X** DIN 1/1  
net basket  
capacity

Chamber vol. ~500 lt / ~132.09 Gal US  
Wash cart vol. ~350 lt / ~92.46 Gal US

### ATS Automatic Transfer System

All loading-unloading operations can be fully automated.

Here shown a 4 washers system organized to accept and manage racks coming from the pre-wash machine installed prior to the loading rack shuttle.





## DS 900 - DS 1000 - Key features

- Steelcotronic control system supported by a color touch screen or LCD display.
- Ergonomic design of the door level height allows the user a convenient loading/unloading job.
- Automatic motorized vertical sliding doors made of HST (High shock tested) tempered glass with safety device.
- HEPA filtered H14 forced air drying system with adjustable time and temperature settings.
- Washing and DI disinfection temperature are fully adjustable up to 93°C/199°F.
- Temperature is monitored by two independent sensors.
- 2 powerful vertically installed washing pumps that ensure high flow rate combined with effective spray pressure and also grant a complete drain of the washing circuit.
- Washing/drying cart injection system.
- Washing cart automatic identification.
- Inner cabinet, washing arms and tank filters made of high quality AISI 316L stainless steel. External cabinet made of AISI 304 stainless steel.
- Triple water filtering system captures residue preventing re-circulation and extending the pump life.
- Three standard automatic liquid dispensers (2 provided with flow meter and level control, 1 with level control only).
- Possibility to store up to four 10 lt. (2.64 Gal US) containers into the basement.

### Fast Cycle machines technology

- 1, 2 or 3 big capacity pre-heating tanks for effective results in reducing cycle time.
- Turbo drying with hot air recirculation.

### Main optional features

- 4<sup>th</sup> Chemical dosing pump
- Conductivity sensor
- Boiler to pre-heat DI water
- Integrated printer
- Light inside chamber
- Steam condenser
- Washing arm rotation sensors
- Bar code reader
- Analogic sensor on washing circuit for pressure check (registered data)
- Steam or mixed heating

### Dimensions and connections

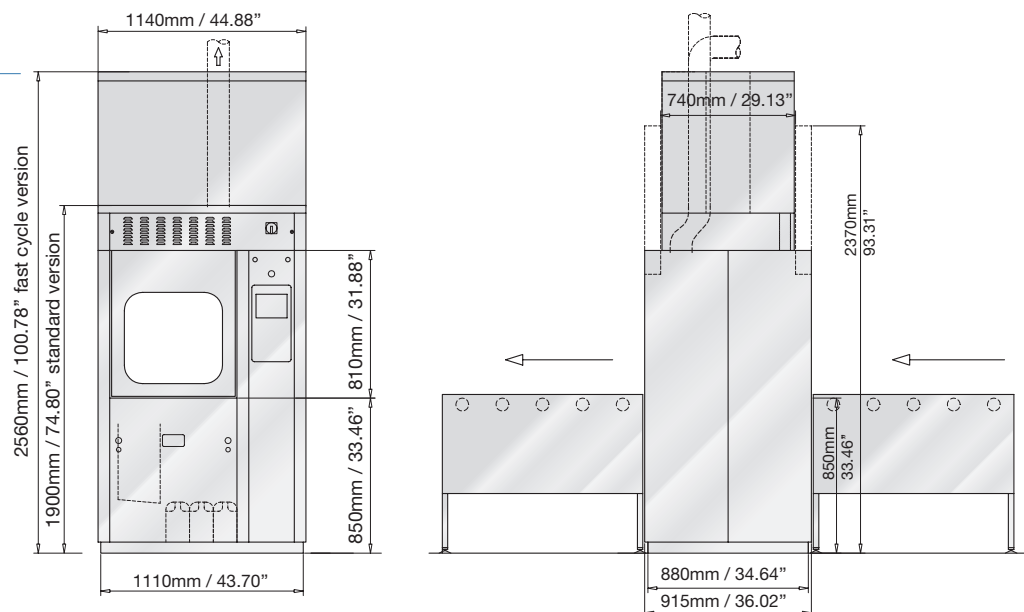
Standard electrical connection (International)	400V/3~+N/50Hz
Optional electrical connection (North America)*	208V/3~+N/60Hz or 480V/3~+N/60Hz
Power standard version**	20000 W
Power fast cycle configuration**	minimum 25000 W
Pump power	900+550 W
Noise	58 dB(A)
Permitted room temperature	+5°C/41°F - +40°C/104°F
Dryer blower	up to 500 m³/h - 17657 ft³/h
Dryer heating	7800 W

\* other electrical connections also available as optional

\*\* with electrical heating elements - chamber steam heating or mixed heating configurations available as option

### DS 1000 fast cycle versions

### DS 1000



1 Warm water connection	¾" male	DN 20 mm	5 Electrical connection	
2 Cold water connection	¾" male	DN 20 mm	9 Compressed air	¼" male
3 Demineralized water connection	¾" male	DN 20 mm	10 Machine drain	Ø 45 mm / 1.77"
4 Chamber breather pipe	Ø 120 mm / 4.72"		11 Floor drain	Ø 50 mm / 1.97"

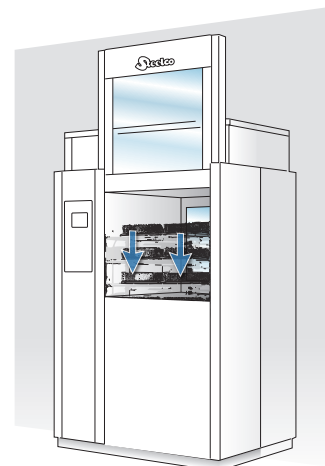


## US 1000 - Ultrasonic cleaner

Steelco US 1000 has been designed **to conveniently integrate surgical instruments ultrasonic cleaning function into an automated CSSD reprocessing solution.**

It is connected to an automatic loading/unloading system of racks coming from a pre-wash machine and with destination to an ATS (automatic transfer system).

US 1000 is **equipped with an automatic cart elevator with a capacity of up to 18 DIN 1/1 net baskets**



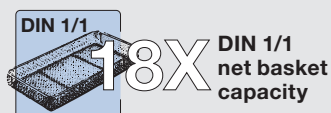
### Key features

- Washing chamber made of stainless steel AISI 316 L.
- Automatic HST temperate glass sliding doors.
- Ultrasonic power 4000w – 38khz, with radio frequency interference filter and power control from 0 to 100% included.
- Automatic chemical dosing pump and flow meter for chemical validation. Minimum chemical level control with alarm.
- PLC microprocessor control with high storage capability for washing programs. Touch screen colour display interface allow complete indication of machine function and residual cycle time highlight. Auto diagnosis function for an easy technical support. Ethernet connection.

### Main optional features

- Control of the ultrasonic system efficiency for the cycle validation.
- 2<sup>nd</sup> chemical pump for disinfectant products
- Communication Software for supervision
- Light inside the chamber
- Integrated system for automatic chamber disinfection available in two versions:
  - **chemical disinfection** independent circuit for the chamber rinsing through an upper rotating arm connected to a disinfectant dispenser.
  - **steam disinfection** with steam at 90°C / 194°F for 60 seconds checked by an independent temperature probe control.

### Washing chamber



Chamber vol. ~500 lt / ~132.09 Gal US  
Wash cart vol. ~350 lt / ~92.46 Gal US

### Dimensions and connections

Standard electrical connection (International)	400V/3~+N/50Hz
Optional electrical connection (North America)*	208V/3~+N/60Hz or 480V/3~+N/60Hz
Power	8000 W
Noise	56 dB(A)
Permitted room temperature	+5°C/41°F - +40°C/104°F

\* other electrical connections also available as optional

## Steelco CSSD - applied solutions







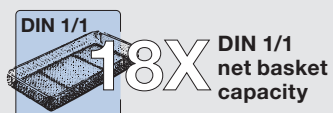
## TW 3000 - Multi Chamber Compartment Washer Disinfector



**TW 3000** is specially designed for processing departments **with a high rate of medical devices and utensils in restricted space. It improves staff productivity and efficiency, saves time and energy consumption.**

It fulfils the European EN ISO15883-1/2 and UK HTM 2030 requirements.

### Washing chamber



Chamber vol. ~500 lt / ~132.09 Gal US  
Wash cart vol. ~350 lt / ~92.46 Gal US



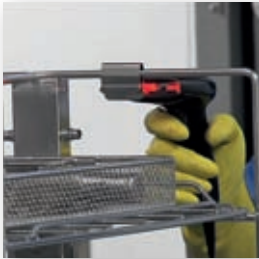
### System integration

**TW 3000 can be combined with ATS system and DS 1000 washer disinfectors.**

It is organized to accept and manage the same range of carts and accessories used in DS 1000.

## TW 3000 - Key features

- Independent chambers improve throughput by processing multiple cycle simultaneously.
- Loading-unloading areas provided with fully automatic conveyors.
- CSSD clean side connected to soiled side by fully automatic return conveyors.
- Validation port at each chamber.
- 18 DIN trays can be immersed into the Ultra-sonic module.



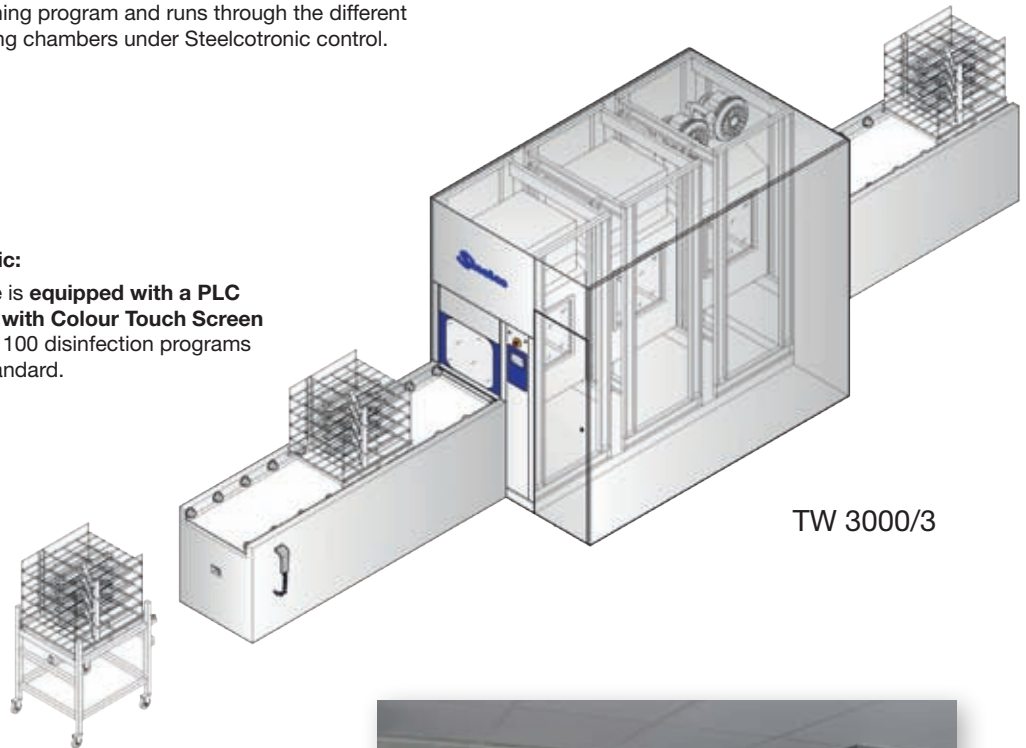
### Simple operation:

a scanner automatically reads the barcodes, selects the relevant washing program and runs through the different washing/drying chambers under Steelcotronic control.



### Steelcotronic:

The machine is **equipped with a PLC control unit with Colour Touch Screen display** with 100 disinfection programs stored as standard.



TW 3000/3

## Applied solutions







## TW 3000 - Multi Chamber Compartment Washer Disinfector



### Washing chamber

- Triple water stainless steel filtering system captures residue preventing re-circulation and extending the pump life
- Extremely smooth chamber surface, welds without pockets and folds.
- 2 heavy stainless steel vertical installed washing pumps, into each washing/disinfection chamber, ensure high flow rate combined with effective spray pressure and also grant a complete drain of the washing circuit.
- HST glass sliding doors between each chamber prevent any carryover of contamination from the chambers.
- Cycle visual inspection, from service compartment, is possible at any time through HST glass windows.
- Chamber heat and noise insulated.



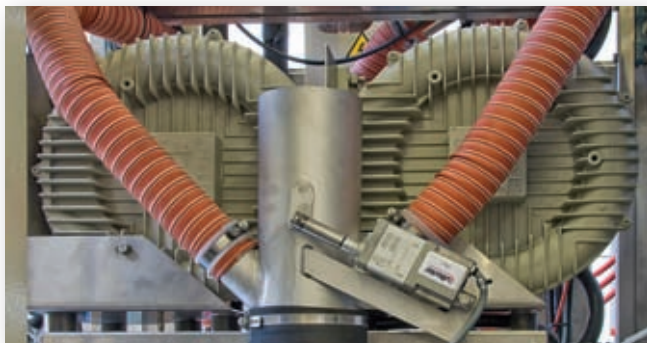
### Heat recovery

- Cold DI water is preheated using water from the thermal disinfection phase (90°C [200°F]), reducing energy consumption.



### Detergent dosing system

- The pumps are connected to the washing and disinfecting chambers. In case one chamber is down the detergent flow can be redirected to the other chamber ensuring a complete wash and thermal disinfection cycle in one chamber



### Drying and filtering

- HEPA filtered forced turbo drying system equipped with 2 high performance fans, with hot air recirculation into the chamber through spray arms and air ducts, helps to ensure the complete inside and outside drying of all the surgical instruments and tubes and make the process fast while saving energy.





### Tanks and connections

- Chambers equipped with pre-heated tanks and recirculation tank.
- Tank connection of external measuring sensors.



### Service access and industrial quality electric panels

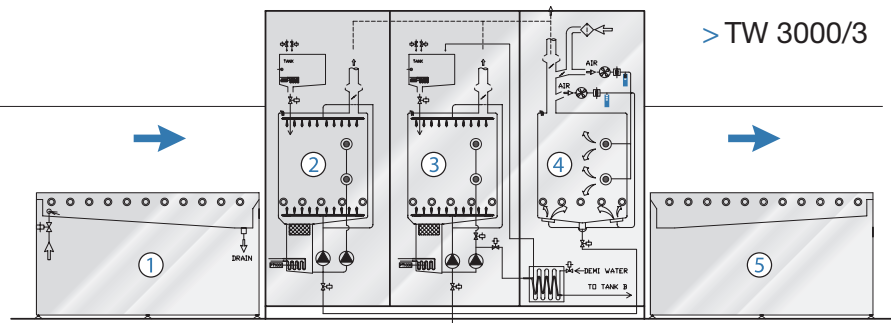
- Service access from one side grants easy access to all the machine components.

### Modular flexibility

The system can be configured from 2 up to 5 chambers, depending on throughput requirements. On request, extra modules can be added after installation to adapt TW 3000 to new future needs.

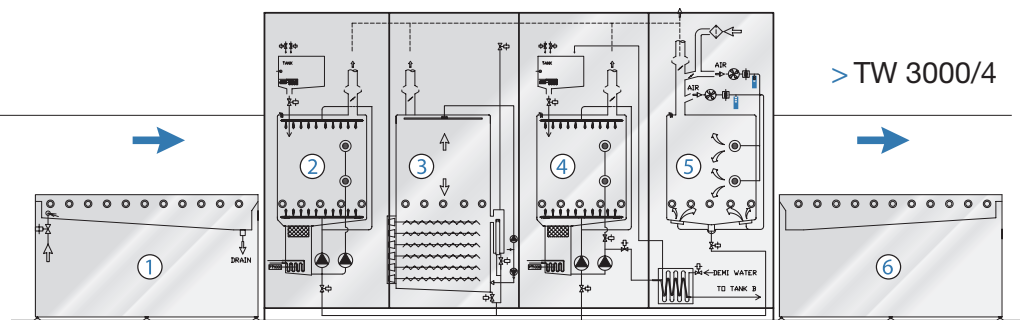
#### 3 washing stages example

- 1 Loading conveyor
- 2 Washing chamber
- 3 Disinfection chamber
- 4 Drying chamber
- 5 Unloading conveyor



#### 4 washing stages example

- 1 Loading conveyor
- 2 Washing chamber
- 3 Ultrasonic chamber
- 4 Disinfection chamber
- 5 Drying chamber
- 6 Unloading conveyor





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



**LC 80**, a floor loading cart and sterile containers washer disinfectant, has been developed for any Health Care application where large items are required to be cleaned and thermo disinfected ensuring protection to patients and operators. **It can treat theatre transport and storage trolleys, sterile containers etc.**

**LC 80 BOT** with its special chamber execution, mm 1200 width and mm 2250 depth, **is suitable for disinfecting operating tables and bed frames.**

The flat chamber floor provides a safe surface to walk on during loading-unloading phase. Multiple oscillating pipes grant excellent washing results and the incorporated tilting rails ensure optimum washing-drying and items unloading.

LC 80 and LC 80 BOT fulfill the European EN ISO15883-1/2 and UK HTM 2030 requirements.



### Washing chamber

Door passage LC 80  
1000mm x 1890mm h / 39.37" x 74.41" h

Door passage LC 80 BOT  
1200mm x 1890mm h / 47.24" x 74.41" h

Chamber depth LC 80 and LC 80 BOT  
2250mm or 3000mm / 88.58" x 118.11"

## LC 80 - LC 80 BOT - Key features

- The machine is available in single door and pass-through versions.
- Washing chamber made in mirror finish stainless steel AISI 316 L
- External body made in stainless steel AISI 304
- Independent temperature monitoring.
- Washing pump pressure control.
- Vertical installed stainless steel washing pump.
- Double drying units, 1000 m<sup>3</sup>/h capacity.
- Chemical control dosing system.
- Flush self cleaning filter for the recirculation of the wash water
- COLOR TOUCH SCREEN control with auto-diagnostic checking that constantly monitors and displays current cycle status and alarms, allows to optimize the washing process and to personalize programs on board of the machines. Up to 65 memorized washing and disinfection programmes:
  - 5 service programmes,
  - 10 fixed programmes and 50 free programmes personalized. Ethernet connection.
- Data archiving system and process control.
- Oscillating washing pipes
- Tilting rails for washing cycle and unloading of trolleys.
- Patented manifold system for trolley docking with spray arms.

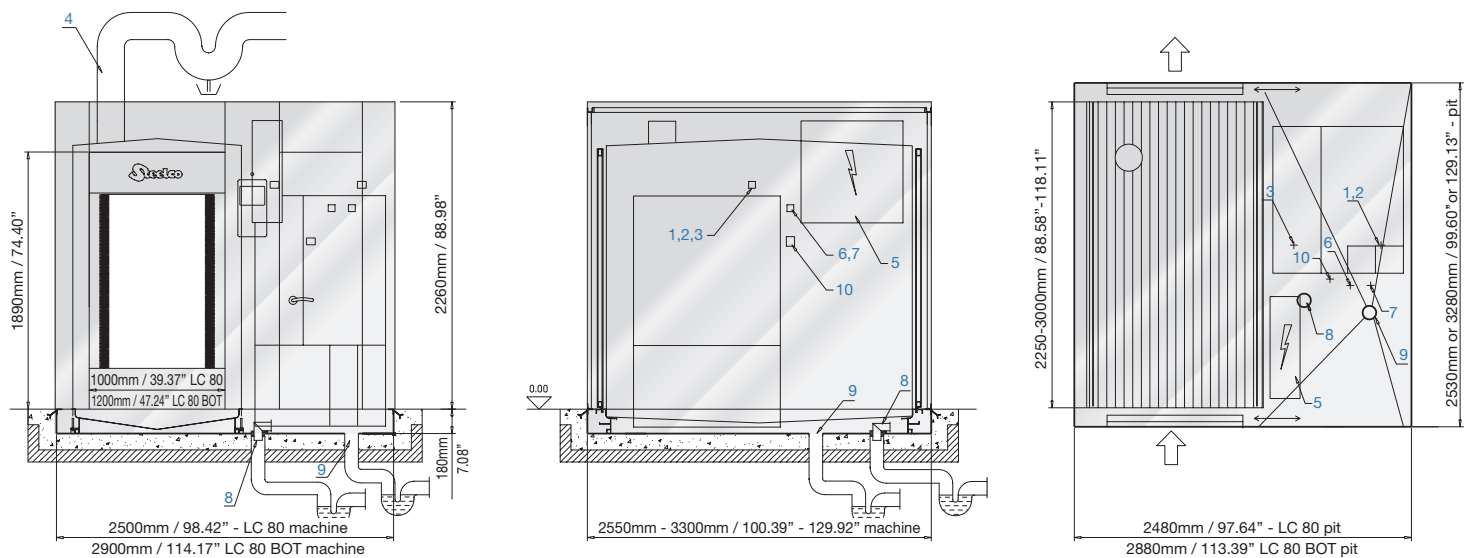
### Main optional features

- 3<sup>rd</sup> Chemical dosing pump
- HEPA H14 air filter
- 201 kW electrical heating
- Patented manifold system for trolley docking with spray arms
- Fully automatic version for loading and unloading the carts
- Light into the chamber
- Printer ST3

### Dimensions and connections

	Electrical heating	Steam heating
Standard electrical connection (International)	400V/3~+N/50Hz	400V/3~+N/50Hz
Optional electrical connection (North America)*	208V/3~+N/60Hz or 480V/3~+N/60Hz	208V/3~+N/60Hz or 480V/3~+N/60Hz
Power	111000 W	20000 W
Pump power	3000 W	3000 W
Noise	58 dB(A)	58 dB(A)
Permitted room temperature	+5°C/41°F - +40°C/104°F	+5°C/41°F - +40°C/104°F
Dryer blower	up to 2x 500 m <sup>3</sup> /h - 17657 ft <sup>3</sup> /h	up to 2x 500 m <sup>3</sup> /h - 17657 ft <sup>3</sup> /h
Dryer heating	15600 W	15600 W

\* other electrical connections also available as optional



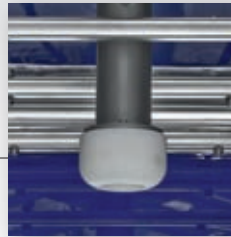
Loading Side

1 Warm water connection	¾" male	DN 20 mm	4 Chamber breather pipe	Ø 200 mm / 7.87
2 Cold water connection	¾" male	DN 20 mm	5 Electrical connection	
3 Demineralized water connection	¾" male	DN 20 mm	8 Machine drain	Ø 60 mm / 2.36

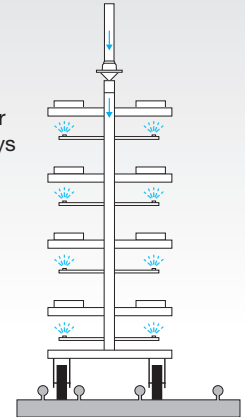




## LC 80 - LC 80 BOT - washing chamber features

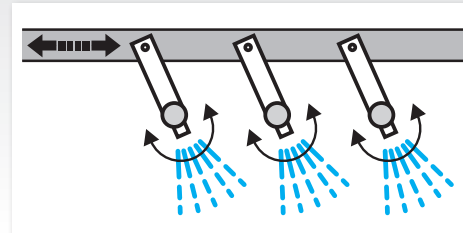


A patented manifold system for trolley docking allows water connection for trolleys provided with spray arms and injection systems.



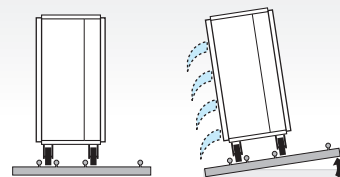
Door made in double HST tempered glass.

Multiple oscillating pipes with numerous stainless steel nozzles grant an excellent washing result.

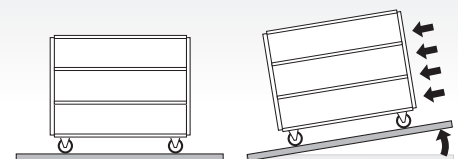


Spray nozzles are also positioned under the loading floor ensuring washing and disinfection at the bottom of the items.

Tilting rails for water dripping allowing a faster and easier drying.



At the end of the washing/disinfection cycle the trolley unloading is also made easier.



### Water filtering

Items processed can accumulate a significant amount of residues.

**A flush self cleaning filter captures residues** during the re-circulation of the wash water.



### Control panel

The STEELCOTRONIC system enables you to optimize the washing process and to personalize the thermosinfection programmes built into the machine. In addition it allows the user to trace the principal validated parameters according to the European rules regarding traceability of contaminated items.

The control screens allows viewing of all programme phases throughout the machines function and also highlights the residual time.

## LC 80 - LC 80 BOT - loading trolleys

Loading trolleys for sterile containers, large bins, washing bowls, kidney dishes, DIN net baskets, theatre shoes, gumboots, etc..







## Drying cabinets

Steelco drying cabinets are **available in several configurations** from full width shelves dedicated to instruments, equipment and general items to mixed solutions for anaesthesia items and instruments.

Blanket warming version available as well.

Cabinets are available in single door or double door pass through versions with glass doors for a rapid visual inspection of the stored items.

**Separate drying** of anesthesia and various special instrument accessories increases the throughput of a washer disinfector by a third. Drying cabinets can be loaded with the volume of up to two washer disinfectors.



### ID 300

Instrument drying cabinet



- capacity up to nr. 18 DIN 1/1 trays on 9 removable shelves, supplied with nr. 8 shelves.



### AD 400

Instrument, anaesthesia bags and hanging hoses mixed drying cabinet

Composition

- up to nr. 3 AN cassettes for a total capacity of 36 anaesthesia hoses
- up to nr. 9 DIN 1/1 trays capacity on 9 removable shelves
- or
- up to nr. 18 anaesthesia bags capacity
- up to nr. 9 DIN 1/1 trays capacity on 9 removable shelves

Supplied with nr. 8 shelves and nr. 3 AN cassettes.



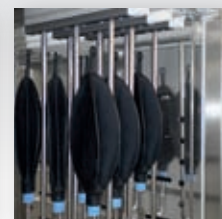
### BD 500

Blankets warming cabinet

- 4 removable shelves for blankets (standard). Shelves can be added and adjusted for different sizes of load.



standard

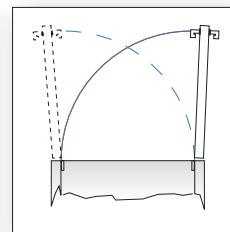
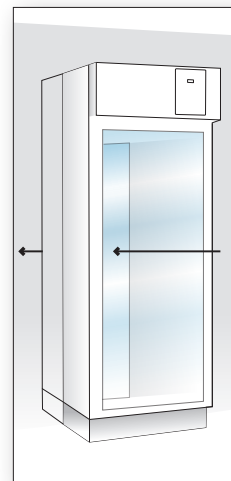


option



## General key features

- Insulated double walled AISI 304 stainless steel construction that ensures the exterior surface temperature does not exceed 49°C (120°F). Temperature of tempered glass door does not exceed 49°C (120°F).
- Visual “open door” indicator. Lockable door.
- LED display, programmable for °C and °F, provides control and heater-on information for easy serviceability. Temperature and time settings are password protected to prevent unauthorized changes.
- Drying temperature settable from ambient to 80°C (176°F). Temperature alarms are disabled when door is open and for the time required to re-equilibrate temperatures in cabinet after door is closed. Temperature setting from 1 up to 999 min or continuous. Once the selected temperature is attained, it will be controlled throughout within 5.5°C (10°F) of the selected temperature. Overheat protection will shut the heater off with audible alarm for operator
- Indirect UV air treatment during the whole cycle. Optional.
- Drying circuit with double fan combined with fast connectors (optional).
- Flashing air flow visual alarm indicators if either drying circuit fails.
- Air flow alarm with re-settable audible alarm, (flashing alarm indication remains until the air flow is restored).
- HEPA filtration on drying circuit. Monitoring for HEPA filter and indicator on panel advising when replacement is required.
- Control components positioned in top front position for convenient service access. Easy removal of fans, heater elements and control boards.



Lockable doors are reversible and configurable right or left opening also during installation.

Double door pass through version available.

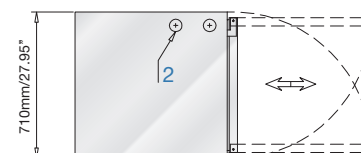
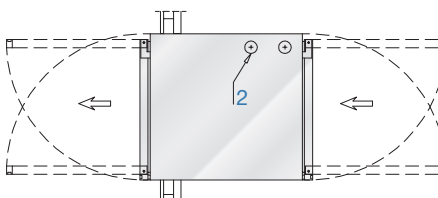
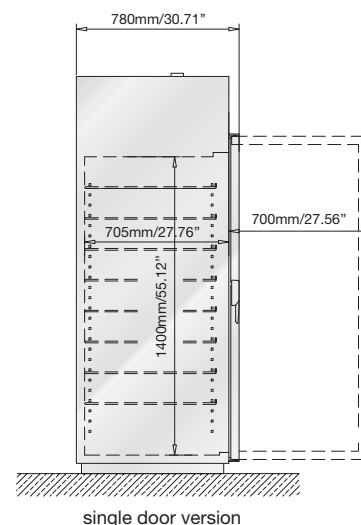
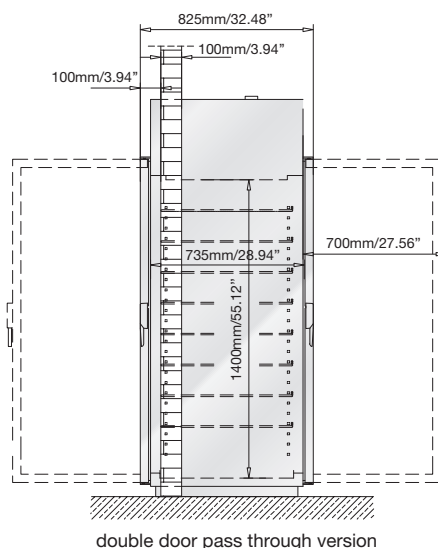
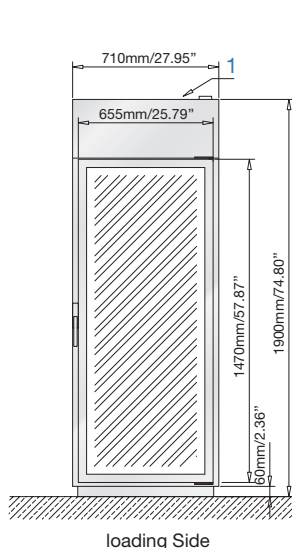
### Optional

- nr. 8 or 9 air fast connections
- extra shelves with rails
- UV air treatment
- Humidity sensor
- ST2 printer

### Dimensions and connections

Standard electrical connection (International)	230V/~/50Hz
Optional electrical connection (North America)*	220V/~/60Hz
Power ID 300 - BD 500	1700 W
Power AD 400	1750 W

\*other electrical connections also available as optional



Electrical connection

Breather pipe Ø 40 mm /1.57"



## US 100 - US 200 - Ultrasonic cleaning system

This Ultrasonic Cleaning System is focused on the treatment of reusable medical devices and rigid endoscopes.

It combines a stainless steel cleaning tank with industrial style transducers and a powerful ultrasonic generator to provide the strongest tabletop cleaning available. **It gives the speed and effectiveness of ultrasonic cleaning power with the convenience of plug-in-anywhere operation.**

A DIN tray basket support and cover are included in the base unit. It meets CSA and UL requirements.

Critical process parameters such as temperature, ultrasonic power and time are monitored granting the compliance to the international standards and can be recorded.



**US 200/2**  
automatic module with  
2 ultrasonic tanks

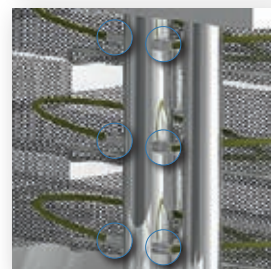
**US 200/3**  
automatic module with 1  
ultrasonic and 1 rinsing tank

Pneumatic lift of the baskets provided with security device.

The baskets automatically sink by pressing cycle start and are automatically lifted at the end of the cycle (no physical operation is required).



Water recirculation through luer lock connections during the cycle - 2 luer lock connections for each level



Under bench storage for chemical canisters



**Tank dimensions**  
600x350x345h mm  
23.62"x13.78"x13.58"

**Basket capacity**  
nr. 3 DIN 1/1 net baskets

**Luer lock connections**  
nr. 6 each tank



**US 100**  
automatic module  
with 1 ultrasonic tank

**US 200/1**  
automatic module  
with 1 ultrasonic tank



## US 100 - US 200 - Key features

- Washing tank made of stainless steel AISI 316L.
- External body made of stainless steel AISI 304.
- LED display and timer for cycle control
- Automatic tank filling and water control level.
- Pump for automatic chemical dosing.
- Automatic minimum level of chemical control with alarm.
- Ultrasonic power 1200W with filter for radio frequency interference and power control from 0 to 100 % included.
- Operation frequency modulation to avoid neutralization areas of the ultrasound effect.
- Standard Ultrasonic frequency 38 kHz, other frequencies on request.
- US 200/3 rinsing tank is provided with water spray nozzles and Luer Lock connections water circulation

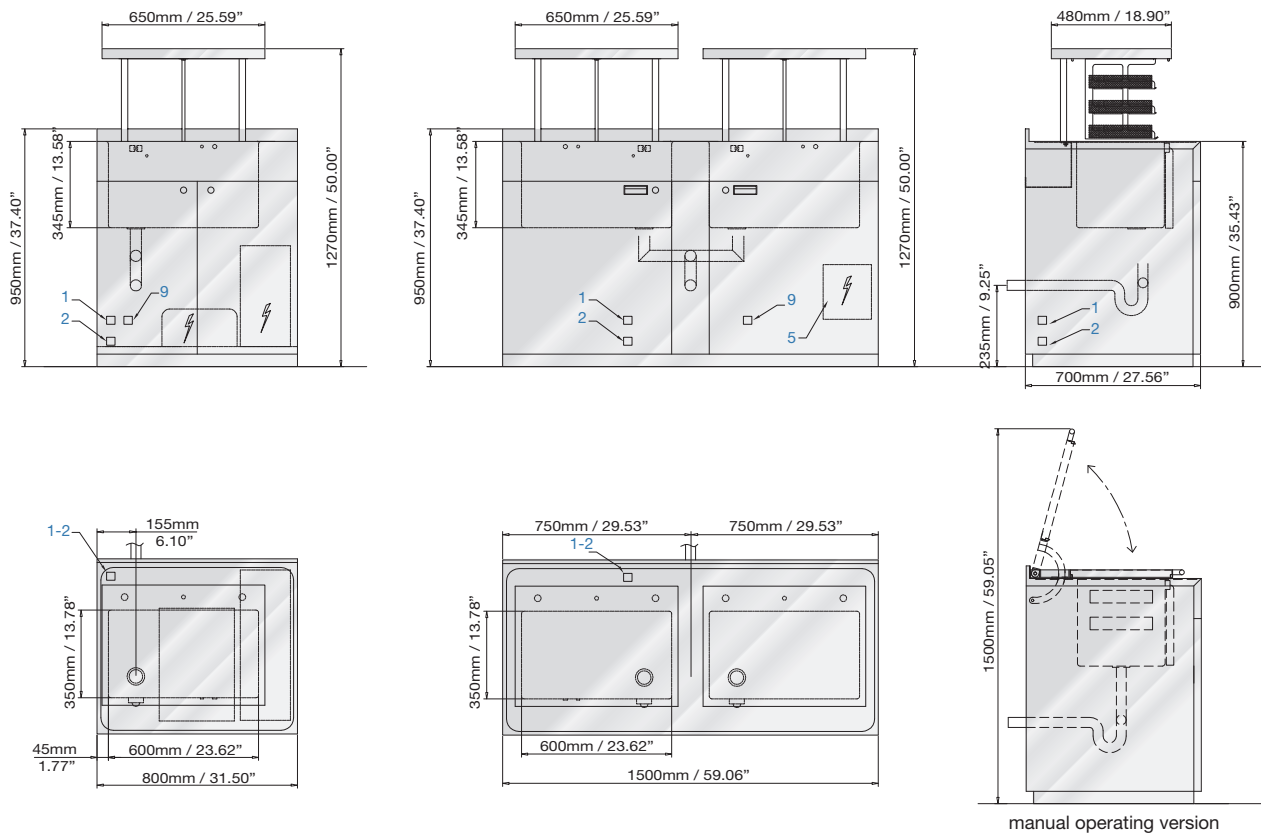
### Dimensions and connections

	US 100 - US 200/1 - US 200/3	US 200/2
Standard electrical connection (International)	230V/~ /50Hz	230V/~ /50Hz
Optional electrical connection (North America)*	110V/~ /60Hz	110V/~ /60Hz
Total power	1400 W	2700 W
Ultrasonic power	1200 W	2400 W
Tank power	300 W	600 W
Permitted room temperature	+5°C/41°F - +40°C/104°F	+5°C/41°F - +40°C/104°F

\*other electrical connections also available as optional

### Optional

- Hinged covers for manual operating version



1 Warm water connection	¾" male	DN 20 mm	9 Compressed air	¼" male
2 Cold water connection	¾" male	DN 20 mm	10 Machine drain	Ø 40 mm/1.57"
5 Electrical connection				





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