

EW 1

Compact automated endoscope reprocessor



The new Steelco EW 1 machine has been developed to comply to the ISO 15883 directives.

The EW 1 washer disinfector is capable to reprocess 1 flexible endoscope, up to 3 video fiberscopes/cystoscopes of all types and brands and up to 11 rigid endoscopes with dedicated wash carts.

Highest flexibility is granted by the compact design, which assures low cycle costs by reduced consumption of water, chemicals and energy.

The integrated monitoring system assures a higher level of safety by checking flow and pressure of the instrument connection.

EW 1 endoscope reprocessor performs chemical disinfection cycle for instruments and a thermal disinfection cycle for device self disinfection.

EW 1 design provides an installation set for any facility:

- Single door
- Double door pass through

The “rack” option set-up for two EW 1 unit allows asynchronous reprocessing of 2 flexible endoscopes on a small footprint

- Single door - double unit on “rack”
- Double door pass through - double unit on “rack”

Specifications

Dimensions:

Single door

External WxDxH:
600mm x 630mm x 945mm
23.62" x 24.80" x 37.20"

Chamber WxDxH:
415mm x 480mm x 375mm
16.33" x 18.90" x 14.76"

Door passage WxH:
415mm x 260mm
16.33" x 10.23"

Double door

External WxDxH:
710mm x 570mm x 1206mm
23.62" x 24.80" x 47.48"

Chamber WxDxH:
415mm x 480mm x 375mm
16.33" x 18.90" x 14.76"

Door passage WxH:
415mm x 260mm
16.33" x 10.23"

Water consumption:

(6 l) per chamber fill

Sound level:

< 40 dB standard configuration

56.2 dB with forced air drying system

Cycles:

3 pre programmed, 4 user defined

Drying:

Complete purging of the instrument channel by a built-in 0,2µm sterile air system.

Washing chamber and endoscope external surface warm air drying is also available as option.

Process chemicals:

Compatible and tested with **peracetic acid** (cold disinfection) and **glutaraldehyde**.

Dosing:

Automatic chemical dosing via membrane pumps controlled by double flowmeters

Standard features

Hinged drop down door

- Stainless steel door frame, stainless steel AISI 316L (DIN 1.4404) washing chamber side, high visibility HST tempered full glass door external side.
- The door acts as a loading platform for wash carts for a convenient instruments loading and unloading job.

Locking Door

- Door locking system during cycle execution grants operator safety and prevents interference with wash cycle.

Washing system

- Two separate hydraulic circuits and pumps for endoscope channel and washing chamber
- Two rotary spray arms, one on the bottom and one on the top of the chamber
- Spray arms made of AISI 316L stainless steel (DIN 1.4404)
- Easily disassemble washing arms for cleaning and maintenance
- The EW 1 drain system guarantees the complete emptying of the washing chamber and hydraulic circuit.

Water connections and filtration

- One (1) water line connection available for cold/mixed or demineralized water.
- Water line is equipped with two (2) flow meters for checking and validation of water quantity and with a water filtration system (one 0.45 µm and one 0.1 µm filter).
- Water level sensor into the washing chamber.

Channels treatment

- The channels treatment is guaranteed by a dedicated pump, a flow sensor and pressure transducer for the water circulation control.

Channels purging/drying system

- Built-in sterile air system, made up of 0,2µm filter for the air sterilization, that ensures the complete purging of the instrument channels.

Channels monitoring

Leakage test

- The leak test verifies the suitability of instruments to be treated into the machine preventing possible problems before they cause serious damages
- Leak test is executed during the whole wash/disinfection cycle with automatic cycle stop in case of anomaly

Channels check

- Endoscope channel flow and pressure monitoring during the whole cycle.
- Automatic stop of the operating cycle in case of alarm and automatic rinsing for the total removal of eventual chemical product residuals.

Circulation pumps

- 110W power pump, 90 l/min flow dedicated to endoscope channel washing
- 110W power pump, 90 l/min flow dedicated to washing chamber washing arms

Chemical dosing

The correct dosing quantity is essential for trustworthy disinfection results.

- Two (2) membrane pumps provide precise addition of liquid chemical agents.
- Volumetric check of the dosed chemicals by double, high accuracy flow meters for checking and validation of disinfectant and detergent quantity.

Chemical storage

EW1 endoscope reprocessor is endowed with a stainless steel base for the storage of process chemicals.

- Up to three (3) chemical tanks 5lt capacity.
- Level sensor check.

Washing chamber heating element

- 2.6 kW electrical heating element
- Electronic thermostat
- Two (2) independent PT1000 temperature probes
- One (1) additional PT 1000 probe for the checking of inlet water temperature

Microprocessor Control System

- Possibility of up to 7 storable programs
3 standard programs, 4 user definable programs
- Pre memorized programs follow the chemicals used for the validation, are developed by Steelco and certified by microbiological hygienic report.
- Different programs are selectable from the control panel. Cycle start is possible only after the operator recognition.

System control panel

- Soft touch control system on glass panel
- 3,5" graphic colour LCD display



System Monitoring

- Constantly informs the operator regarding machine status, cycle phase, remaining cycle time to the end of treatment and the chamber temperature.
- Audible and visual alarms provide quality control for each wash cycle.
- Water level sensor for water sump load
- RS 232 Port for printer connection to monitor and validate washing cycle
- USB port for historical cycle data, machine parameters and washing programs download. Allows easy software upgrades.

Process washing and disinfection Cycles

EW1 is compatible and tested with peracetic acid (cold disinfection), glutaraldehyde and can perform thermidisinfection cycles.

By using Steelco process chemicals the EW 1 automatic endoscope reprocessor reaches the **highest efficiency results proven by microbiological tests** together with complete documentation and instruments maximum safety conditions.

- Washing and disinfection cycle phases are: prewash, detergent wash, rinse, low temperature disinfection and two final rinses

- Peracetic acid disinfection temperature 35°C/95°F, cycle phase time 5 min.
- Glutaraldehyde disinfection temperature 55°C/131°F, cycle phase time 5 min.
- Thermal disinfection cycle: 80°C/176°F washing phase (cycle phase time 10 min.), air drying

Process traceability

Steelco EW 1 gives a report for each disinfection cycle including:

- EW 1 serial number identification
- Id of the instrument (up to 3 instruments)
- Id of the operator who activated the cycle

It also gives a report of all parameters in process:

- Cycle time
- Water consumption
- Chemical products dosing
- Phase details

At the end it points out that the cycle has been correctly processed.

Drain Pump

- Independently operated drain pump for efficiently pumping out waste water

Construction

Wash Chamber and door internal side

- Constructed using AISI 316L BA Ra<30µin (Ra<0.8µm)
- 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<40µin (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 guards against heat loss and reduces noise level

Optional features

Double door pass through version

Additional water connection

- Equipped with two (2) flow meters for checking and validation of water quantity. This option is normally required when demineralized water is available, in order to perform instrument disinfection and final rinse with that water.

Powered electrical heating elements

- 4.6 kW electrical heating element to reduce process total cycle time
- AER total power 5.05 kW

3rd chemical dosing pump

- Membrane pump providing precise addition of liquid chemical agents (i.e. instrument lubricant)

Water Softener

- Softens incoming water
- Programmable regeneration with low salt alarm

Compressed air additional tank

- 3.5l additional tank for compressed air to improve channel drying

Connection for external compressed air medical quality

- Max inlet pressure 2 bar

Washing chamber warm air drying system

- forced HEPA H14 filtered warm air drying ensures perfect drying of the external surface of the endoscopes
- 0.75 kW electric heating element

Barcode reader

- allows faster instrument and operator recognition

Printer

- External printer for validating washing phases with detailed information

Network connection

- Ethernet connection for the remote recording of cycle parameters through SteelcoData traceability software

Accessories

- A variety of basket trays for flexible endoscopes, videobronchoscopes/cystoscopes or 3 fiberscopes/cystoscopes with separate control, rigid scopes...
- Using the "rack" option, two EW 1 machines will be installed on the top of each other on a mobile shelf. This set up allows asynchronous reprocessing of 2 flexible endoscopes on a small footprint.

Cleaning chemicals

- Dedicated cleaning chemicals are available.

Required utilities

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

Water

Drain Connection

Electrical requirements

- Total power of the machine in standard configuration 3.05 kW
- 230V/~50Hz
- other electrical connections are available to match electrical requirements of installation site.