



# Hospital Autoclaves

For CSSDs, OR and Medical Centers

 Horizontal Line

**Tuttnauer**  
Innovation · Legacy · Partnership



## Hospital Autoclaves

Tuttnauer hospital autoclaves ensure reliable sterile processing for Hospital CSSD, OR, and Medical Centers. The autoclave sterilizers are designed and manufactured in a state-of-the-art facility in compliance with strict international standards to ensure safe re-use of sterilized equipment.

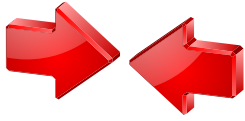
### **Experience Since 1925**

As a family owned business Tuttnauer has manufactured products for over 95 years that have developed a reputation for their quality, high performance and reliability, sophisticated features, and ability to satisfy customer expectations. Tuttnauer's sterilization & infection control products are trusted at over 350,000 installations worldwide including Hospitals, Clinics and Laboratories.

### **Exceptional Support Worldwide**

Tuttnauer's staff provides expert pre-sales and after-sales support services to satisfy customer expectations. Our teams are made up of multi-cultural people who are able to comfortably work with customers around the world. Tuttnauer provides in-depth face-to-face training in many locations around the world to ensure that Tuttnauer technicians and engineers are experts in their ability to support each customer's technical service needs.

At Tuttnauer we highly value customer feedback which contributes to the continuous improvement of our products and support services.



## Custom Design for Limited Space

Tuttnauer's strong engineering capability allows for highly customized autoclave design. Facilities with space layout limitations will benefit from custom narrow design autoclaves which provide high capacity in a limited space. Narrow design autoclaves allow for more autoclaves in a given space to ensure continued sterile processing in case of autoclave downtime.



## Uniform Heat Distribution

Fully jacketed chambers ensure uniform heat distribution to ensure consistent serialization conditions for all loads in chamber. A chamber that is not fully jacketed may have cool spots which can cause improper sterilization.



## Green Water Saving

The optional **AquaMinimal Radiator** and **AquaMinimal Chiller** water saving systems are the best solutions to minimize water consumption between 50% and 90%.



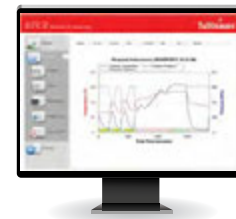
## Perfectly Optimized Cycles

With years of research and customer feedback we have fine-tuned our formula for perfectly optimized cycles with the precise combination of pulses, timing, temperature control, speed and drying.



## Stainless Steel Piping

Stainless steel piping and connectors are used to avoid corrosion which is necessary to safeguard the integrity of the autoclave and prevent contamination of the sterilized loads (either as chemical or particulate contamination).



## Load Traceability

The optional R.PC.R software allows for tracing sterilized loads by barcode. All cycle records and associated barcodes are automatically recorded to a PC on your network. In addition, R.PC.R allows for convenient access to cycle reports, including graphs and tables (in PDF format).



# Advanced Control System for Your CSSD

Take advantage of Tuttnauer's sophisticated user-friendly control systems for repeatable high performance. Choose either Tuttnauer's sophisticated Bacsoft controller or the Allen-Bradley (AB 1400 PLC) controller.

## Standard Features

- 7" Multi-color touch screen panel
- Keypad control panel on second door of two door autoclaves with Bacsoft controller
- Stores the last 200 cycles in built-in memory (Bacsoft)
- Multiple access levels and user passwords to control access/operation of the autoclave
- Diagnostic In/Out test (enables technician to check each system component separately)
- Sterilization Temperature range 105°C to 138°C

## Load Tracing with Barcodes

When loading the autoclave a barcode reader can be used to scan the barcodes of each load. Once the cycle starts the barcode numbers will be printed together with cycle information.

## Optional Features

- 10" Multi-color touch screen
- 21 CFR part 11
- Independent Recording for cross-checking cycle measurements
- Disinfection/Isothermal Temperature range from 70°C to 95°C

## Process Workflow Management Data Connection

Provides real-time data to any process workflow management system supporting Modbus



## Sophisticated Touch Screen HMI

The HMI (Human Machine Interface) has been designed with the following considerations:

- Multi-color display for easier reading from a distance
- Multilingual (26 languages)
- Graphical display of Temperature and Pressure trend graphs



## Cycle Programs

Horizontal Autoclaves are preprogrammed with 8 perfectly optimized cycle programs that cover the processing needs of most CSSDs and Operating Rooms.

### 8 Preset Cycle Programs

- Unwrapped cycle for operating rooms (OR) that need surgery instruments for immediate use
- Wrapped and double wrapped loads for CSSD processing on instruments and textiles at 134°C and 121°C for delicate instruments
- Additional special program cycles for prion applications and special wrapping materials

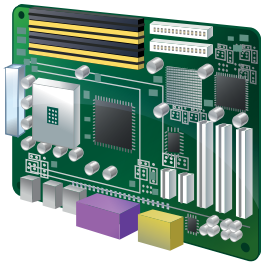
### 2 Test Cycles

- Bowie Dick/Helix for steam penetration testing
- Leak test to check vacuum integrity

### Custom Cycles

- 20 cycles available for customized cycle programs

## Bacsoft Controller



STANDARD

OPTIONAL



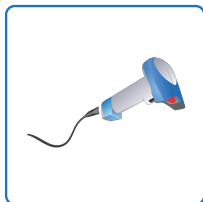
Printer



Touch Screen  
Loading side



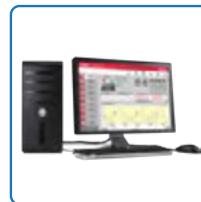
Remote Internet access  
for Technical Support  
(requires R.PC.R, and local  
cellular router for  
Internet connection)



Barcode  
Reader



Touch Screen  
Unloading side



R.PC.R software  
for access from  
remote PC on  
internal network



Chart  
Recorder

## Load Tracing & Automatic Recording of Cycle Information to Your PC

### R.PC.R Software (optional)

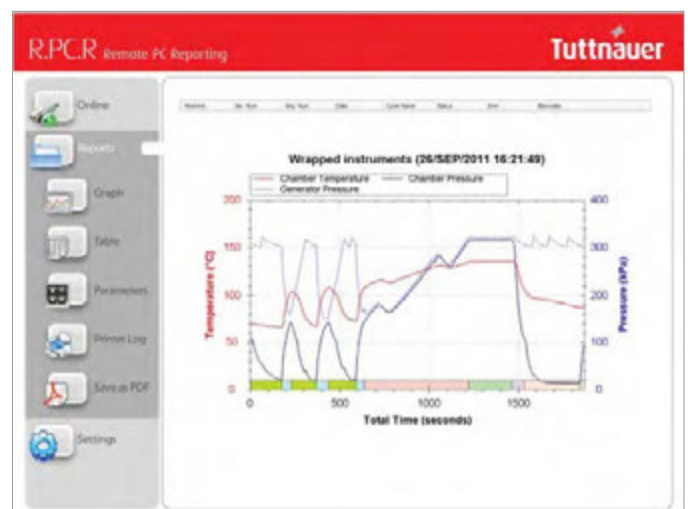
#### Cycle Records You Can Rely On

- Automatic recording of cycle information to any PC on your network via Ethernet
- Convenient access to graphs and tables that are easy to understand
- Easily generate PDF reports
- No need to file printouts, saving you time

#### Load Traceability

Conveniently trace loads from a PC on your network with R.PC.R software. When barcodes of loads are scanned before a cycle starts, the barcode information is reported together with the cycle records.

**With R.PC.R you can see:** Graphs of the cycle data, Numeric cycle data, Cycle print-outs, Measured values table, Parameter table.



# Wide Range of Models and Sizes

The Horizontal Line of autoclaves is designed to accommodate a wide range of chamber volumes and load configurations. Chamber sizes range from 120 to 1010 Liters. Tuttnauer also builds customized configurations to adapt to a customer's site. All models are available with either single or double doors

## Horizontal 44 and 55 Compact Series

Compact autoclaves with chamber volumes ranging from 120 Liters to 310 Liters.

The 44 and 55 series is available with two door options:

- Fully automatic vertical sliding door
- Manual hinged door

Model	Chamber Dimensions (WxHxD) mm	Chamber Volume (Liter)
4472	408x408x730	120
4496	408x408x970	160
5596	508x508x970	250
55120	508x508x1210	310



Vertical Sliding Door - Control Panel on Top



Manual Hinged Door



Vertical Sliding Door - Control Panel on Side

## Horizontal 66 Mid Range Series

Mid-size autoclaves with chamber volumes ranging from 340 Liters to 920 Liters.

The 66 series is available with two door options:

- Fully automatic vertical sliding door
- Hinged door with automatic locking

Model	Chamber Dimensions (WxHxD) mm	Chamber Volume (Liter)
6690	610x610x915	340
66120	610x610x1215	450
6671130	660x710x1295	610
6671162	660x710x1620	760
6671197	660x710x1970	920



Vertical Sliding Door



Automatic Hinged Door

## Horizontal 69 Large Capacity Series

Large autoclaves with chamber volumes ranging from 510 Liters to 1010 Liters.

The 69 series is available with two door options:

- Fully automatic horizontal sliding door
- Hinged door with automatic locking

Model	Chamber Dimensions (WxHxD) mm	Chamber Volume (Liter)
6990	610x910x915	510
69120	610x910x1215	680
69150	610x910x1515	840
69180	610x910x1815	1010



Automatic Hinged Door



Horizontal Sliding Door

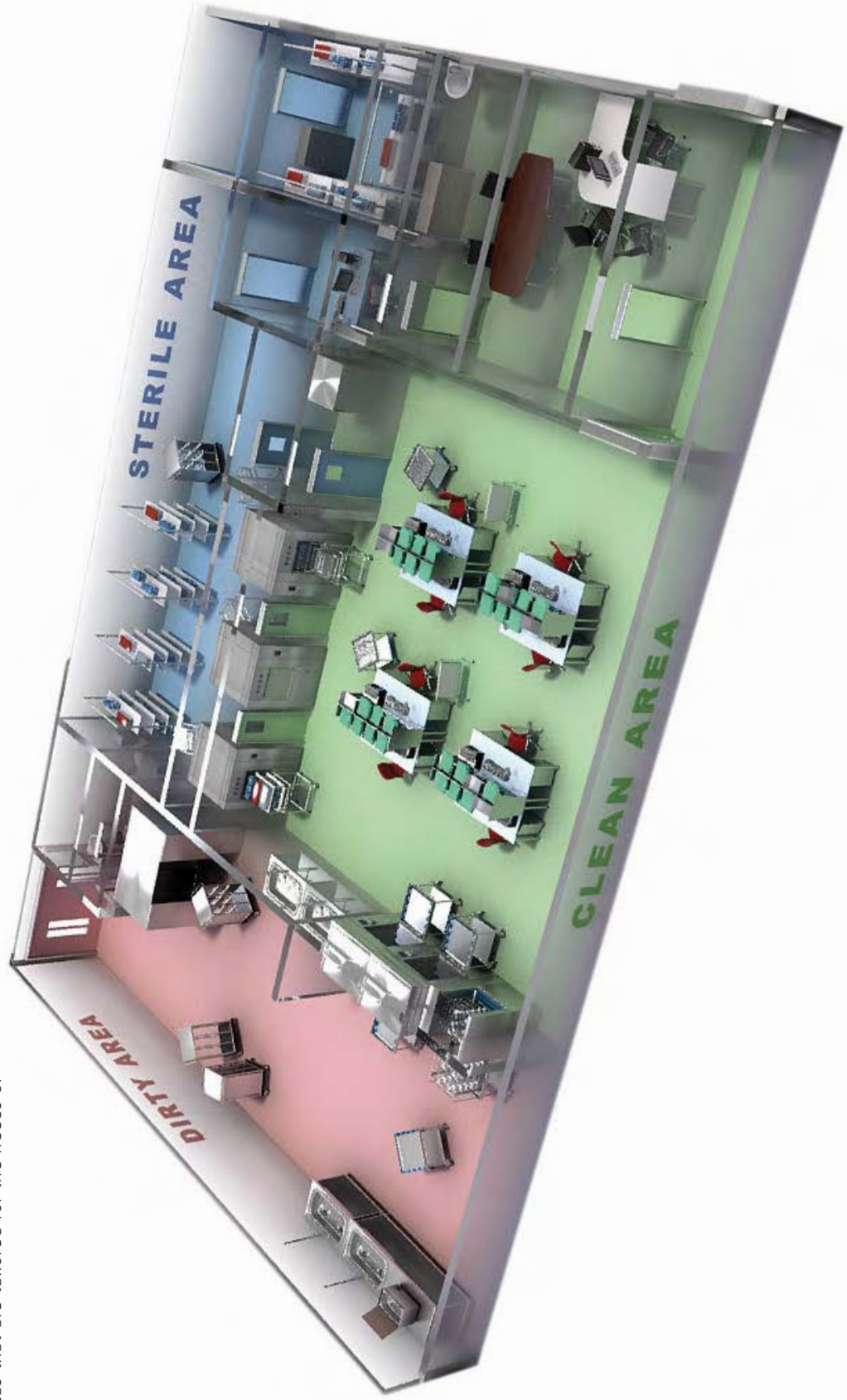


# CSSD Design

The design of a central sterile supply department requires many considerations: Proper design of areas within the department, choosing the right equipment and understanding the needs of the OR.

Tuttner manages complete turnkey solutions, including planning, design and installation of equipment. The Tuttner team can provide innovative solutions and space saving ideas that are tailored for the needs of your hospital.

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# Green AquaMinimal Systems

Save Water & the Environment

## Water Saving

Hospital autoclaves traditionally consume significant amounts of water using utility resources and increasing operational cost. Customers are increasingly looking for eco-friendly green features. Tuttinauer's water saving system will make your facility more environmentally-friendly and cost-efficient by saving hundreds of liters of water per cycle.

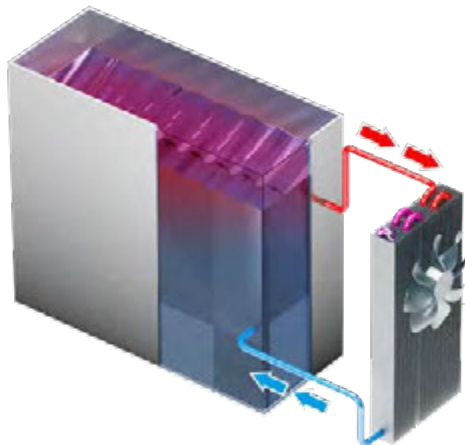
Most water consumption of an autoclave takes place during effluent cooling via a heat exchanger and during vacuum-pump cooling when generating a vacuum in the chamber.

Tuttinauer's water saving systems reduce the water usage during effluent cooling and vacuum generation thereby making efficient use of water.



## AquaMinimal- Radiator

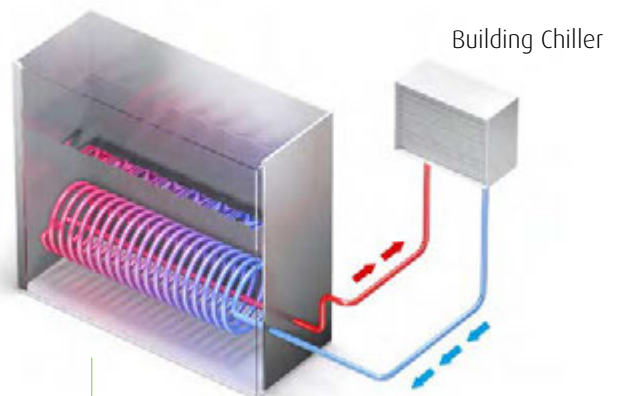
The AquaMinimal -Radiator reduces tap water consumption by as much as **50%**.



A powerful radiator system cools and re-circulates water used in the autoclave

## AquaMinimal- Chiller

The AquaMinimal- Chiller is the best solution to minimize water consumption by as much as **90%** and is suitable for facilities with a chilled water supply.



Tap water in reservoir is cooled by a cooling coil through which chilled water is passed. The tap water is circulated for re-use in the autoclave.

## Loading Equipment

High quality stainless steel loading equipment for loading and unloading.

- **Pull Out Trays**

Stainless steel trays equipped with rails for easy loading and unloading. The rails are designed to prevent the trays from rolling over.

- **Loading Carts and Transfer Carriages**

The 316L loading carts are designed to roll from the transfer carriage onto the chamber rails for easy handling of heavy loads. To ensure safety and ease-of-use the carriage is equipped with a lock preventing sliding of the cart. Swivel wheels with wheel breaks maximize mobility in limited space.

- **Automatic Loading**

Autoclave is designed to connect with automated loading and unloading systems, which are controlled via the autoclave controller.



## Complimentary Products

- **Ultrasonic Cleaner**

Deep cleaning of hollows before sterilization



- **Sealing Machine**

For sealing instruments in pouches for sterile storage



## Safety

Safety for personnel, autoclave and load are priority in the design, construction and operation of any Tuttnauer autoclave. Tuttnauer is committed to the highest industry safety standards and directives to ensure safety not only for your employees operating the autoclaves but also for your sterile processing facility and the loads being sterilized.

Tuttnauer autoclaves are provided with redundant independent monitoring systems and audiovisual alarms to notify operators of any issue that requires attention. An emergency stop button on the loading side of the autoclave may be used to safely stop the autoclave cycle.

## Standards

### Electrical Safety and Electromagnetic compatibility (EMC):

- EN 61326-1:2013 " for EMC Requirements for Electrical Equipment "
- IEC 61010-1: Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
- EN IEC 61010-2-040:2021: Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-040: Requirements for sterilizers and washer-disinfectors used to treat medical materials

### Pressure Vessel and Steam Generator Construction Standards

- 2014/68/EU, Directive, concerning pressure equipment (PED)
- ASME Code section I and section VIII. Div.I

**Tuttnauer pressure vessels are both ASME and PED certified. All ASME certified vessels are inspected by an independent authorized ASME inspector.**

### Quality System Compliance

- EN ISO 13485:2016 "Quality Management System" – "Medical devices".
- ISO 13485:2016 "Quality Management System" – "Medical devices".
- Medical Device Regulation 2017/745 as amended by 2001/83/EC and Medical Device directive (MDD) 93/42/EEC – by DEKRA (CE0344)
- Medical Device Single Audit Program- companion document (MDSAP)
- EN ISO 14971:2019 Medical devices — Application of risk management to medical devices
- ISO 9001: 2015 "Quality Management System".
- ISO 14001:2015 environmental management system

### Technical and other standard:

- EN 285: "Large steam sterilizer"
- ANSI/AAMI/ST8: Hospital Steam Sterilizers
- IEC 62304: Medical Device Software – Software life cycle processes.
- 2012/19/EU WEEE and EU 2017/2102 Restriction of the use of certain hazardous substances (RoHS Directive)

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## Horizontal Line

International Sales and Marketing  
E-mail: [info@tuttnauer.com](mailto:info@tuttnauer.com)  
[www.tuttnauer.com](http://www.tuttnauer.com)

Tuttnauer Europe b.v.  
Hoeksteen 11, 4815 PR  
P.O.B. 7191, 4800 GD Breda  
The Netherlands  
Tel: +31 (0) 765 423 510 Fax: +31 (0) 765 423 540  
E-mail: [info@tuttnauer.nl](mailto:info@tuttnauer.nl)

Tuttnauer USA Co.  
25 Power Drive,  
Hauppauge, NY 11788  
Tel: +800 624 5836, +631 737 4850 Fax: +631 737 0720  
E-mail: [info@tuttnauerUSA.com](mailto:info@tuttnauerUSA.com)

  
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