Tuttnauer
Your Sterilization & Infection Control Partner

Company Profile
For over 80 years, Tuttnauer’s sterilization and infection control products have been trusted by hospitals, universities, research institutes, clinics and laboratories throughout the world. Supplying a range of top-quality products to over 100 countries, Tuttnauer has earned global recognition as a leader in sterilization and infection control.

Our Flexibility is Your Advantage
Beyond our unmatched range of products, we also manage complete turnkey solutions, including planning, design and installation of equipment, as well as consultation and feasibility studies for projects of all sizes.

Global Partnership
At Tuttnauer we feel that business means people dealing with people. We pride ourselves on our reputation for building solid long-term relationships with our customers based on commitment and trust, spanning decades and distances. Backed by industry experience and a track record of success, Tuttnauer continues to help medical and research institutes all over the world to plan and execute their sterilization and infection control policies.

Full Steam Ahead
Tuttnauer’s Pre and Post Vacuum Tabletop Sterilizers

Until recently, the most advanced sterilization technology was found only in large hospital sterilizers. Today there is a growing demand for more sophisticated sterilization technologies. Any private or dental clinic can enjoy the benefit of this technology right in their office. Outpatient clinics, which have increased significantly in recent years, perform highly skilled invasive surgery on their own premises. They rely on advanced sterilization technology. In addition, the increasing tendency towards modular space design in the clinic makes our pre & post vacuum tabletop autoclaves the perfect solution.

Tuttnauer’s pre & post vacuum tabletop sterilizers are designed to perform class B cycles that meet the strictest EN 13060 European standards.

The European EN 13060 standard defines the requirements for small steam sterilizers according to classes. Class B and Class S are defined according to the type of instruments and products that need to be sterilized.
Class B The sterilization of wrapped or unwrapped, solids, hollow and porous loads.
Class S The sterilization of instruments as specified by the manufacturer and at least one of the class B items.
**Fractioned Pre Vacuum Air Removal**

The Challenge:
Hollow, porous and packed load types as well as fabrics have one thing in common: **Air is trapped** inside these instruments and fabrics, resulting in air pockets that prevent the full penetration of steam. It is known that spores and bacteria can survive at 134°C (273°F) in air pockets.

The solution:
Fractioned pre vacuum air removal eliminates air pockets from all load types and maximizes steam penetration to instrument components.

How does it work?
A pre vacuum pump removes the air from the chamber. Then a pulse of steam is admitted. This process is repeated 1 to 4 times (as selected). With each cycle of vacuum and steam-pulse the air fraction decreases. This allows for complete air removal and for faster and more efficient steam penetration throughout the entire load. **Tuttnauer class B sterilizers pass helix tests every time! Helix tests ensure 100% air removal from the load.**

**Post Vacuum Drying**

The Challenge:
When hot steam comes in contact with the cooler instruments, condensation can form. Condensation becomes even more serious with packaged loads, when moisture can remain after the cycle ends. A moist load does not provide sufficient SAL (Sterility Assurance Level).

The Solution:
Post vacuum drying provides complete drying of porous loads and hollow instruments at the end of the sterilization process.

How does it Work?
Based on the combined operation of heat and vacuum air-removal, the left-over moisture will quickly evaporate from the chamber. The low pressure in the chamber caused by the vacuum reduces the boiling temperature and the moisture evaporates faster. The hot vapor is sucked out of the chamber and thus the materials will dry. Finally, dry air is passed into the chamber through a bacteria-free air filter for final drying and breaking of vacuum.

We believe that proper education, advanced technology and ease of use contribute to improved sterilization results.
Nova
Our star performer

The Nova is a pre & post vacuum sterilizer that uses the most advanced tabletop technology available. The 23 Liter chamber has compact outer dimensions making it a perfect fit for today’s contemporary clinic. The Nova is designed to sterilize class B cycles. A common application is in the medical OR (Operating Room) as an independent sterilization unit or in dental and private clinics that need to sterilize narrow and hollow instruments and wrapped packs.

Benefits:
• Designed to sterilize class B cycles - packaged, porous and hollow A loads
• Compact design with small footprint for the contemporary clinic
• Does not require any external supplies, except power
• Preheated chamber keeps the chamber warm and ready to use
• Improved monitoring for consistent documentation of sterilization results
• Easy-to-use, single touch control system helps productivity
• Dual Compartment Water Reservoir
• Each cycle uses clean unused water and provides higher sterilization results
Features

Built-in Printer
Conveniently located, does not require additional connections or external devices

Stainless Steel Trays
Durable, long lasting

PC Connection Port for Direct PC access
Enables direct software updates and remote maintenance

Independent Pressure Gauge
Reads the chamber pressure independently of the control system for improved monitoring

Independent Steam Generator
Provides readily available steam for faster cycles
Safety and Convenience features:

- Seamlessly integrated into your work environment with compact design and heat insulation
- Durable 316L type stainless steel chamber and door with electro-polish finish
- Double locking safety device prevents door from opening while chamber is pressurized
- Control lock-out switch prevents starting a cycle if door is not properly locked
- Door protection device prevents door from opening at high pressure and temperature
- Automatic safety shutoff prevents overheating of chamber

Complies with the strictest international directives and standards:

**Technical Directives:**
- Medical Device Directive 42/EEC
- Pressure Equipment Directive 97/23/EEC

**Technical Standards:**
- EN 13060:2004 and AAMI/ANSI ST8 – Small Steam Sterilizers
- ASME Code, Section VIII for Pressure Vessels
- EN61010-1:96
- EN61010-041:96 – Particular Requirements for steam autoclaves
- EN 50081-1 – (EMC) Emission compatibility
- EN 50082-1 – (EMC) Immunity compatibility

**Quality standards:**
- EN ISO 9001:2000 – Quality System
- ISO 13485:2003 – Quality systems – Medical devices
- UL listed, FDA declared
Monitoring and Control

Monitoring is essential for correct infection control in any clinic or private practice. The Nova features a user-friendly, microprocessor control system which offers enhanced monitoring and provides the control and flexibility you need. The RS232 communications port offers direct PC access. This allows for user-friendly calibration, sterilization cycle program display, remote maintenance and software upgrades.

Features:
- High precision control system for perfect sterilization results
- User friendly display
- Ability to customize cycle parameters for user needs
- Password protection provides secure access
- Displays continuous information about cycle progress

Alert Messages and Alarms
- Insufficient water detector and alert with automatic shutoff
- “Stop fill” water alert
- “Empty Reservoir” alert when used-water reservoir is full
- Independent temperature and pressure monitoring
- Cycle information recovery in the case of power failure or cycle interruption

The Nova offers a total of 8 preset programs: 6 sterilization programs and 2 test programs: the Bowie and Dick/Helix test and the vacuum test

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast</td>
<td>Unwrapped Instruments</td>
<td>134°C</td>
<td>15 min.</td>
<td>N/A</td>
</tr>
<tr>
<td>WDry 134</td>
<td>Porous, Wrapped and Hollow A loads</td>
<td>134°C</td>
<td>35 min.</td>
<td>42 min.</td>
</tr>
<tr>
<td>P 134</td>
<td>Porous, Wrapped and Hollow A loads with sterilization time recommended to sterilize prions</td>
<td>134°C</td>
<td>46 min.</td>
<td>55 min.</td>
</tr>
<tr>
<td>NoDry 121</td>
<td>Unwrapped delicate instruments</td>
<td>121°C</td>
<td>35 min.</td>
<td>42 min.</td>
</tr>
<tr>
<td>WDry 121</td>
<td>Porous, Wrapped and Hollow A loads and delicate instruments</td>
<td>121°C</td>
<td>55 min.</td>
<td>62 min.</td>
</tr>
<tr>
<td>Slow 121</td>
<td>Delicate and unwrapped instruments with slow exhaust</td>
<td>121°C (Max time)</td>
<td>37 min.</td>
<td>N/A (Max time)</td>
</tr>
</tbody>
</table>

Cycle times include air removal, heating, sterilization exposure, exhaust and drying. Tested with Solid load/Textile 2 kg. Programs WDry 134 and P 134 include a 15 minute drying time and Program WDry 121 includes a 20 minute drying time. All cycle times may vary with instrument load and voltage.

Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>NOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chamber Dimensions ø x L (mm)</td>
<td>254x475</td>
</tr>
<tr>
<td>Chamber Volume (Liter)</td>
<td>23L</td>
</tr>
<tr>
<td>No. of Trays</td>
<td>4</td>
</tr>
<tr>
<td>Tray Dimensions WxHxD (mm)</td>
<td>168 x 20 x 414</td>
</tr>
<tr>
<td>Voltage(V) Freq.(Hz)</td>
<td>230V 50Hz</td>
</tr>
<tr>
<td>Current(A) Power(W)</td>
<td>14.5A 3000W</td>
</tr>
<tr>
<td>Overall Dimensions WxHxD (mm)</td>
<td>512 x 424 x 578</td>
</tr>
<tr>
<td>Autoclave Weight (Kg.)</td>
<td>57</td>
</tr>
</tbody>
</table>
EHS
Significantly Reduced Cycle Time

Our expertise with large, industrial sterilization technology was packaged into the EHS, the fastest pre & post vacuum tabletop sterilizer. It is a hospital grade sterilizer ideal for outpatient or private clinics that wish to be independent of a CSSD (Central Sterilization Supply Department) for instrument processing, but do not want to compromise on results. It is also commonly used for Flash cycles in OR (operating room).

Features
- Robust high-volume water-ring vacuum-pump for fast and efficient air-removal
- Dual-compartment water reservoirs with automatic filling and discharge
- Connection to water draining and to external mineral-free water supply for automatic draining and filling of water
- Stand-by heating mode keeps the autoclave warm and ready to use
- Double locking safety device prevents door from opening while chamber is pressurized
- 316L type stainless steel chamber and door with electro-polish finish
- Control lock-out switch prevents starting a cycle if door is not properly locked
- Door protection device prevents door from opening at high pressure and high temperature
- Automatic safety shutoff prevents overheating of chamber

Benefits:
- Minimizes the time it takes for each individual cycle to come up to temperature and pressure
- Built to run continuously for 24 hours
- Improved temperature distribution in the chamber
- Reduces condensation and improves drying
- Improves chamber insulation and increases efficiency

Speed
The EHS is our fastest tabletop autoclave. This is achieved with a jacketed double walled chamber, which acts as an instant supply of steam and keeps the autoclave warm and ready for use. The powerful water-ring vacuum-pump provides for fast pre and post vacuum air removal. In addition, it is built to run continuously without the need to pause between cycles.

Capacity
We understand that every clinic has different needs. The EHS is available in 23 Liters and 85 Liters chamber size. The 85 Liter model is designed for clinics that need a higher rate of instrument turnover. When used at full capacity this model significantly decreases the cost of instrument processing.
Monitoring and Control

The EHS features a user-friendly, microprocessor control system which offers enhanced monitoring and provides the control and flexibility you need.

- High precision control system for perfect sterilization results
- Ability to customize cycle parameters and maximize flexibility
- Password protection provides secure access

Alert Messages and Alarms

- Independent temperature and pressure monitoring
- Cycle information recovery in the case of power failure or cycle interruption
- Fail Alert – Indicates cycle failure or interruption
- Door Alert – Indicates the door is unlocked

The EHS offers 5 pre-programmed sterilization cycles, 2 test cycles

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Description of load and sterilization temp</th>
<th>2540 EHS Ave. Cycle Time</th>
<th>3870 EHS Ave. Cycle Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Fast 134</td>
<td>Unwrapped Instruments for immediate use 134ºC</td>
<td>12 min.</td>
<td>N/A</td>
</tr>
<tr>
<td>2-Fast 121</td>
<td>Unwrapped instruments for immediate use 121ºC</td>
<td>19 min.</td>
<td>N/A</td>
</tr>
<tr>
<td>3-W.dry</td>
<td>Wrapped instruments and porous loads 134ºC</td>
<td>40 min.</td>
<td>46 min.</td>
</tr>
<tr>
<td>4-W.dry 121</td>
<td>Wrapped instruments and porous loads 121ºC</td>
<td>44 min.</td>
<td>52 min.</td>
</tr>
<tr>
<td>5-W.dry 134</td>
<td>Wrapped instruments and porous loads 134ºC</td>
<td>57 min.</td>
<td>63 min.</td>
</tr>
</tbody>
</table>

- Cycle times include air removal, heating, sterilization exposure, exhaust, and drying. Model 2540 tested with Solid load/Textile 2 kg. Model 3870 tested with Solid load/Textile 6 kg. Programs 3 and 4 include a 20 minute drying time and Program 5 includes a 30 minute drying time. All cycle times may vary with instrument load and voltage.

Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>2540EHS</th>
<th>3870EHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chamber Dimensions</td>
<td>øxL (mm)</td>
<td>254x476</td>
</tr>
<tr>
<td>Chamber Volume</td>
<td>(Liter)</td>
<td>23L</td>
</tr>
<tr>
<td>No. of Trays</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Tray Dimensions</td>
<td>WxHxD (mm)</td>
<td>168x20x414</td>
</tr>
<tr>
<td>Voltage(V) Freq.(Hz)</td>
<td></td>
<td>230V</td>
</tr>
<tr>
<td>Current(A) Power(W)</td>
<td></td>
<td>13A</td>
</tr>
<tr>
<td>Overall Dimensions</td>
<td>WxHxD(mm)</td>
<td>508x422x710</td>
</tr>
<tr>
<td>Autoclave Weight</td>
<td>(Kg.)</td>
<td>77</td>
</tr>
</tbody>
</table>

EHS - Program 3: WDry 134

Complies with the strictest international directives and standards:

- Safety of electrical equipment • EN 61010-1:2001 - Particular Requirements for steam autoclaves • EN 50081-1 – (EMC) Emission compatibility • EN 50082-1 – (EMC) Immunity compatibility
EVB EVS
The Classical Class B/Class S Sterilizers

The EVB and EVS are pre & post vacuum sterilizers built for private clinics that wish to upgrade to a sterilizer that uses vacuum air-removal. The EVB and EVS are the classic and reliable choice, offering advanced technology at an affordable price.

The EVB is designed to provide Class B cycles while the EVS is designed to provide Class S cycles in accordance with EN13060.

Both models have the following features:
- A pre vacuum air removal stage
- A post-sterilization drying phase, based on the combined operation of heat and vacuum with air inlet pulses

The EVS is an affordable solution that is designed to process wrapped and unwrapped, hollow B instruments. If, however, you need to sterilize hollow A devices, which have extremely long lumens, you should consider one of our class B sterilizers. The EVB is programmed to perform up to 4 pre-vacuum air removal pulses that result in 99.5% removal of air. The EVS, on the other hand, uses a single air removal vacuum pulse to remove most of the air.

Features:
- Stand-by heating mode keeps the EVB warm and ready to use
- 316L type stainless steel chamber and door with electro-polish finish
- Control lock-out switch prevents starting a cycle if door is not properly locked
- Double locking safety device prevents door from opening while chamber is pressurized
- Door protection device prevents door from opening at high pressure and temperature
- Automatic safety shutoff prevents overheating of chamber
Monitoring and Control
Monitoring is essential for correct infection control in any clinic or private practice.
The EVB and EVS feature a user-friendly, microprocessor control system which offers enhanced monitoring and provides the control and flexibility you need.

- High precision control system for perfect sterilization results
- User-friendly, intuitive display
- Pre-programmed sterilization cycles and 2 test cycles
- Ability to customize cycle parameters and maximize flexibility
- Password protection provides secure access.
- Displays continuous information about cycle progress
- Integrated Printer provides detailed documentation of each performed cycle (Optional for EVS)
- RS232 Communications Port – remote control with ADMC software

Alert Messages and Alarms
- Insufficient water detector and alert with automatic shutoff
- Independent temperature and pressure monitoring
- Cycle information recovery in the case of power failure or cycle interruption

The EVB offers 6 pre-programmed sterilization cycles, 2 test cycles. The EVS offers 5 pre-programmed sterilization cycles, 2 test cycles.

<table>
<thead>
<tr>
<th>Specifications</th>
<th>2540EVB</th>
<th>2540EV5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chamber Dimensions ø x L (mm)</td>
<td>245x476</td>
<td>254x476</td>
</tr>
<tr>
<td>Chamber Volume (Liter)</td>
<td>23L</td>
<td>23L</td>
</tr>
<tr>
<td>No. of Trays</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Tray Dimensions WxHxD (mm)</td>
<td>168x20x414</td>
<td>168x20x414</td>
</tr>
<tr>
<td>Voltage(V) Freq.(Hz)</td>
<td>230V 50/60Hz</td>
<td>230V 50/60Hz</td>
</tr>
<tr>
<td>Current(A) Power(W)</td>
<td>9.6A 2200W</td>
<td>9.6A 2300W</td>
</tr>
<tr>
<td>Overall Dimensions WxHxD (mm)</td>
<td>508x362x650</td>
<td>508x362x550</td>
</tr>
<tr>
<td>Autoclave Weight (Kg.)</td>
<td>48</td>
<td>48</td>
</tr>
</tbody>
</table>

The EVB offers 6 pre-programmed sterilization cycles, 2 test cycles. The EVS offers 5 pre-programmed sterilization cycles, 2 test cycles.

Complies with the strictest international directives and standards:

Safety of electrical equipment • EN 61010-2-041:96 – Particular Requirements for steam autoclaves
• EN 50081-1 – (EMC) Emission compatibility • EN 50082-1 – (EMC) Immunity compatibility


EVB - Program 3: WDry 134
More from Tuttnauer:
Featuring Tuttnauer’s range of cleaning, disinfection and sterilization solutions

Large sterilizers for various industries and market needs
Washers/disinfectors for hospitals and laboratories
Laboratory autoclaves ranging in size and application

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