Plasma Low Temperature Sterilization

With vaporized hydrogen peroxide

Tuttnauer
Your Sterilization & Infection Control Partners

PlazMax Line
Low Temperature Sterilization
For heat and moisture sensitive equipment

PlazMax Line

PlazMax provides an efficient sterilization solution for heat & moisture sensitive equipment in CSSDs and Gastroenterology & Respiratory Endoscopy Clinics.

PlazMax will give you the lowest rate of failed cycles than any other hydrogen peroxide plasma sterilizer on the market. You get increased productivity, reduced risk of work stoppage, and efficient supply of sterilized equipment where it’s needed.

In operating rooms PlazMax benefits you with almost immediate access to sterilized equipment. Simple to install and control, only requiring 1-phase electricity and Hydrogen Peroxide (H₂O₂) packs to operate. No need to send equipment to a CSSD, eliminating the risk of damage and contamination in transit.
PlazMax Line

Advanced and Flexible Control System
Take Advantage of Tuttnauer’s state-of-the-art control system with multicolor touch screen display. Includes equipment tracking and maintenance notification features.

25 minutes Fast and Productive
PlazMax cycle times are as low as 25 minutes (P50 normal cycle).

Wide Range of Chambers
Don’t over pay for two small sterilizers when you can buy one large sterilizer. Choose from 3 models with chamber sizes from 47 to 109 liters.

Keep Running Costs Low
Keep your consumable costs low
With PlazMax you have the freedom to use commonly available market accessories such as indicators, pouches & rolls, etc. that are suitable for sterilization with vaporized hydrogen peroxide. Tuttnauer also sells sterilant, and biological & chemical tape indicators.

Clean Technology
- Non-toxic sterilizing agent
- Minimal utility requirements – low electricity consumption, no water consumption
- The sterilization process results in water and oxygen by-products

Vertical Sliding Door
Automatic Vertical Sliding Door (P110 model only) with built-in foot operated device for hands-free door operation.

Tough Challenges – PCD
By challenging the PlazMax sterilizer with our Process Challenge Device (optional) you will be confident that it does its job at the highest sterilization levels.
PlazMax P50

• 47 Liter Chamber
• Single or Double door
• Chamber Dimensions (WxHxD) 420 x 180 x 624 mm

PlazMax P80

• 83 Liter Chamber
• Single or Double door
• Chamber Dimensions (WxHxD) 420 x 320 x 624 mm
## Technical Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Volume Liters</th>
<th>Chamber Dimensions (WxHxD) mm</th>
<th>External Dimensions (WxHxD/D 2-doors) mm</th>
<th>No. of Baskets 40x60 (WxD) cm</th>
<th>Power (W)</th>
<th>Current (A)</th>
<th>Voltage V 1-Phase 50-60 Hz</th>
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<tr>
<td>P50</td>
<td>47</td>
<td>420 x 180 x 624</td>
<td>702 x 1528 x 729 / 736</td>
<td>1</td>
<td>670W</td>
<td>2.9A</td>
<td>230 V</td>
</tr>
<tr>
<td>P80</td>
<td>83</td>
<td>420 x 320 x 624</td>
<td>702 x 1668 x 729 / 736</td>
<td>2</td>
<td>690W</td>
<td>3.0A</td>
<td>230 V</td>
</tr>
<tr>
<td>P110</td>
<td>109</td>
<td>420 x 420 x 624</td>
<td>702 x 1768 x 729 / 736</td>
<td>2</td>
<td>1150W</td>
<td>5.0A</td>
<td>230 V</td>
</tr>
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## Sterilization Cycle and Test Programs

<table>
<thead>
<tr>
<th>Model</th>
<th>Normal Cycle (Non-hollow loads)</th>
<th>Advanced Cycle (Hollow loads)</th>
<th>Endoscope *</th>
<th>Test Cycles</th>
<th>Description</th>
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<tbody>
<tr>
<td></td>
<td>Cycle Time (min.)</td>
<td>Cycle Time (min.)</td>
<td>Cycle Time (min.)</td>
<td>Test I</td>
<td>Penetration Test</td>
</tr>
<tr>
<td>P50</td>
<td>35</td>
<td>40</td>
<td>25</td>
<td>Test II</td>
<td>Leakage Test</td>
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<tr>
<td>P80</td>
<td>35</td>
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<td>25</td>
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<td>50</td>
<td>30</td>
<td>Test II</td>
<td>Leakage Test</td>
</tr>
</tbody>
</table>

* Endoscope cycle temperature: short heating time and reduced H₂O₂ exposure time
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 (also on second door of two door configurations)
- Stores the last 200 cycles in built-in memory
- Multiple access levels and user passwords to control access/operation of the Plazmax
- Diagnostic In/Out test (enables technician to check each system component separately)
- Sterilization Temperature range 50°C to 55°C
- Thermal Printer
- USB and Ethernet connection port

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)
- Dynamic graph displaying the chamber pressure and the cycle process
- Displays process info – pressure, temperature, vaporizer temp.

Equipment Tracking & Maintenance Notification

Equipment tracking software provides a detailed sterilization history of each endoscope tracked. The software will notify when equipment needs to be returned back to the original equipment manufacturer for maintenance.
R.P.C.R Software

Automatic Recording of Cycle Information to Your PC

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

Be in Control with Real-Time Remote Monitoring
- See the real-time autoclave display on your PC
- Monitor all activity for up to 8 autoclaves

With R.P.C.R you can see: Graphs of the cycle data, Numeric cycle data, cycle print-outs, measured values table, parameter table.

Software and Hardware

Standard

- Direct network access for technical Support (requires R.P.C.R)
- Touch screen
- Thermal Printer

Optional

Remote network access for technical Support (requires R.P.C.R) (requires local SIM card for Internet connection)

R.P.C.R software for access from PC or network

USB Digital Cycle Data

Connect a USB memory device to the PlazMax and you can download a soft copy of cycle printouts and all cycle data history stored in the sterilizer’s memory.
Sterilization Cycle Process

1. START Cycle

2. Air Removal from Chamber → Perpetration for Diffusion → H₂O₂ Diffusion

3. Chamber Gas Removal & Plasma Breaks H₂O₂ Molecules* → Perpetration for Diffusion → H₂O₂ Diffusion


5. Cycle END

* Plasma breaks down H₂O₂ molecules into H₂O and O₂ outside the chamber
How can you be sure your hollow instruments have been 100% penetrated?

Use Tuttnauer’s Process Challenge Device (PCD)

Tuttnauer’s PCD kit includes lumens that are more difficult to penetrate than your loads. With the PCD you can be certain your lumen loads are fully exposed to the vaporized hydrogen peroxide sterilizing agent.

The PCD kit includes long lumen configurations that cannot be successfully sterilized in competing devices.

The PCD Kit includes 1mm diameter lumens with lengths of 4m (both sides open) and 1.4m lumens (one side open).

Chemical indicators are used every cycle and in each package item to validate penetration and to ensure vaporized peroxide has made contact with the load.

Biological indicators are used according to a schedule required by a hospital’s policy and require an incubator (optional) to facilitate the detection of micro-organisms. Biological indicators validate sterilization by helping determine that the sterilizer effectively kills the micro-organisms.

Safety Features

Tuttnauer strives to provide sterilizers that ensure safety for patients, staff, and the environment. Safety features include:

• No hazardous or odorous emissions • Low temperature and low pressure during sterilization • Door is locked during cycle operation
**Non-Hollow Loads**

Non-hollow loads are sterilized with the “Normal Cycle”.

- Electrocautery Instruments
- Dopplers
- Laser probe
- Defibrillator paddles
- Thermometer
- Ophthalmic lenses
- Harmonic cable

**Hollow Loads**

Hollow loads are sterilized with the “Advanced Cycle”.

- Laryngoscope & blade
- Shaver hand pieces
- Fiber optic light cable
- Surgical power drill
- Laryngoscope & blade

- The instruments and equipment presented are only a partial list of the wide range that can be safely sterilized in PlazMax
- Only use PlazMax with equipment authorized by original manufacturer to be sterilized with plasma sterilizers.
Endoscopes
Endoscopes and similar equipment are sterilized with the “Endoscope Cycle”.

Rigid scope for optics
Rigid scope
Flexible endoscope
Flexible endoscope
Standards and Directives

PlazMax has been developed according to the following international standards and directives (partial list):

- ISO 9001:2008
- ISO 13485:2003
- ISO 14937
- EN 61010-2-040:2005
- EN 60601-1:2006/AC:2010
- Directive 2006/95/EC
- Directive 2004/108/EC
- Directive 2006/42/EC
- Directive 93/42/EEC
- Directive 2007/47/EC
- CE Medical Device Mark 0344

Your Sterilization & Infection Control Partners

Company Profile

For over 88 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.

Global Partnership

At Tuttnauer we feel that business means people dealing with people. We pride ourselves on our reputation for having long-lasting relationships with our customers based on commitment and trust, spanning over decades and distances.

Our Flexibility is Your Advantage

Beyond our wide range of products and ability to customize products to customer requirements, 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.