



## Plasma Low Temperature Sterilization

With vaporized hydrogen peroxide

# Low Temperature Sterilization

For heat and moisture sensitive equipment



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

With PlazMax 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 (H<sub>2</sub>O<sub>2</sub>) packs to operate. No need to send equipment to a CSSD, eliminating the risk of damage and contamination in transit.





### 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 4 models with chamber sizes from 47 to 162 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 indicators & chemical 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 with built-in foot operated device for hands-free door operation.

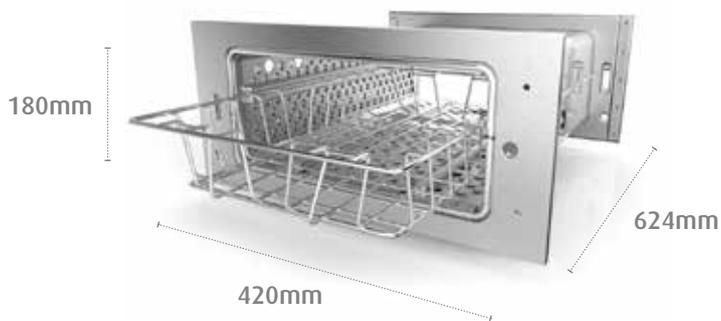


### Tough Challenges – PCD

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



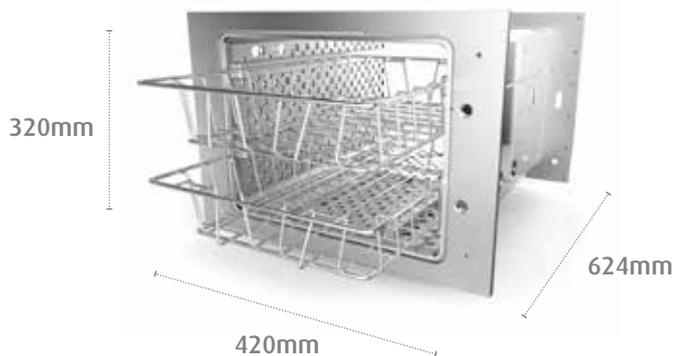
47 Liter Chamber

### Door options

Single | Double | Manual | Vertical Automatic with Hands-Free door operation



## PlazMax P80



83 Liter Chamber

### Door options

Single | Double | Manual | Vertical Automatic with Hands-Free door operation

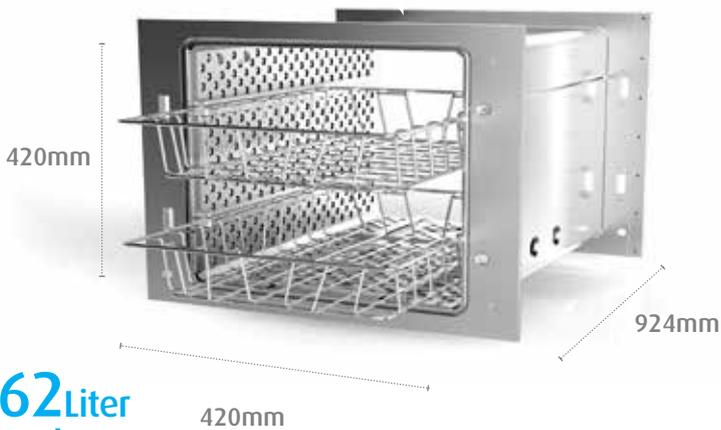


## PlazMax P110



**110**Liter  
Chamber

## PlazMax P160



**162**Liter  
Chamber



### Door options for P100 and P160

Single | Double | Manual |  
Vertical Automatic with Hands-Free door operation

## Technical Specifications

Model	Chamber Volume	External Dimensions (WxHxD/D 2-doors) mm	No. of Baskets (WxD cm)	Power (W) Current (A)	Voltage (V) 1-Phase 50-60 Hz
<b>P50</b>	47	702 x 1528 x 729 / 736	1 (40x60 cm)	3100 W 13.5 A	230 V
<b>P80</b>	83	702 x 1668 x 729 / 736	2 (40x60 cm)	3400 W 14.7 A	230 V
<b>P110</b>	110	702 x 1768 x 729 / 736	2 (40x60 cm)	4300 W 18.7 A	230 V
<b>P160</b>	162	702 x 1768 x 1029 / 1036	2 (40x90 cm)	4300 W 18.7 A	230 V

\* Internal Chamber dimensions for each model are specified next to the image for each chamber

## Advanced Control System for Your CSSD

Take advantage of Tuttinauer's sophisticated user-friendly control system for repeatable high performance.

### 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

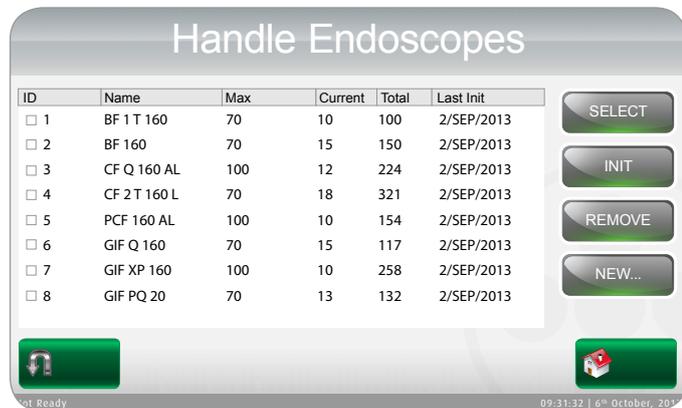
The HMI (Human Machine Interface) has been designed with the following considerations:

- 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.PC.R Software

Automatic Recording of Cycle Information to Your PC

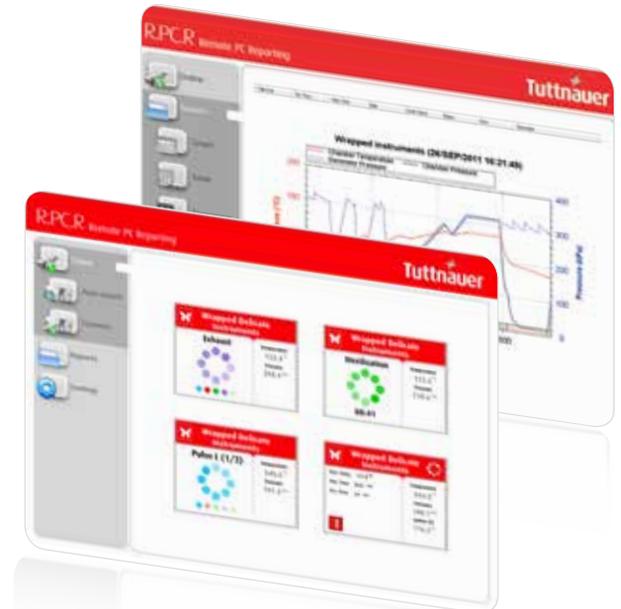
### Reporting You Can Rely On

- 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

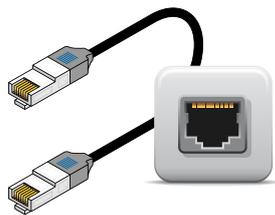
- See the real-time autoclave display on your PC
- Monitor all activity for up to 8 sterilizers

With R.PC.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.PC.R)



Touch screen



Thermal Printer

### Optional

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



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

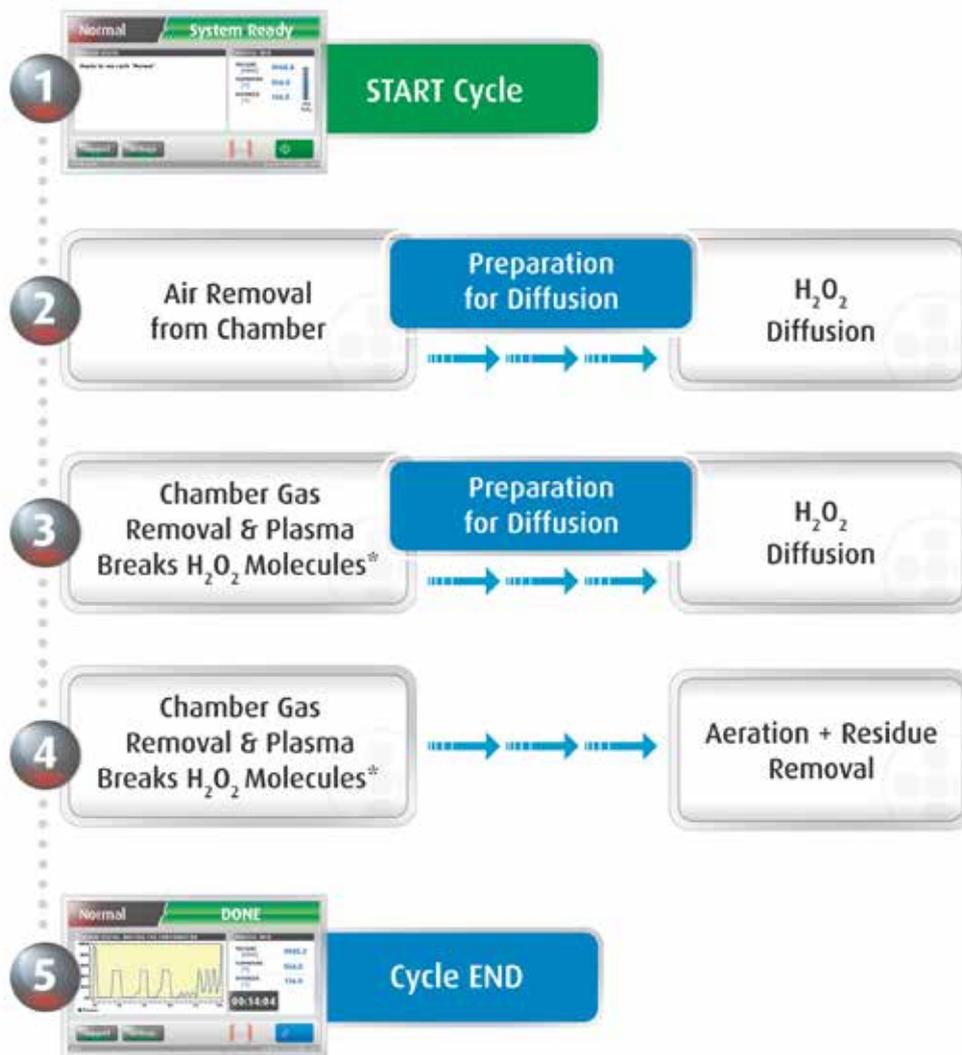


## USB Digital Cycle Data

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



\* Plasma breaks down Hydrogen Peroxide (H<sub>2</sub>O<sub>2</sub>) molecules into Water (H<sub>2</sub>O) and Oxygen (O<sub>2</sub>) outside the chamber

## Sterilization Cycle and Test Programs

Model	Normal Cycle (Non-hollow loads)	Advanced Cycle (Hollow loads)	Endoscope *
	Cycle Time (min.)	Cycle Time (min.)	Cycle Time (min.)
P50	35	40	28
P80	35	40	28
P110	45	50	30
P160	50	55	45

Test Cycles	Description
Test I	Penetration Test
Test II	Leakage Test

\* Endoscope cycle temperature: short heating time and reduced H<sub>2</sub>O<sub>2</sub> exposure time.  
 Note: Cycle times are based on a hot cycle and may vary according to load volume.

## 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, like endoscopes, are fully exposed to the vaporized hydrogen peroxide sterilizing agent.

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

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



4m both sides open



**Chemical indicators** are used every cycle and in each packed 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 & blades

- 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
- Medical Device Directive 93/42/EC
- CE Medical Device Mark 0344

## Your Sterilization & Infection Control Partners

### Company Profile

For over 90 years, Tuttinauer'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, Tuttinauer has earned global recognition as a leader in sterilization and infection control.

### Global Partnership

At Tuttinauer 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.



*Learn from our Experts*  
Join our blog [www.tuttinauer.com/blog](http://www.tuttinauer.com/blog)



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