



Quality

## Bulk Steam Sterilizers



# Bulk Steam Sterilizers for Laboratory & Scientific Applications

The Tuttnauer line of bulk autoclaves are designed to handle the most critical sterilization processes, utilizing a liquid ring mechanical vacuum pump for pre/post vacuum capabilities. A wide range of sizes and options are available to meet the ever-growing demands of today's facilities.

Operators can select from a wide variety of steam sterilization programs to sterilize general laboratory products as well as animal bedding & feed. Tuttnauer's easy to use microprocessor controls, monitors and prints out all phases of each cycle for record keeping and analysis. The bulk line is primarily used in the Bio-Technology, Laboratory and Animal Care markets, manufactured using reliable non-proprietary components.





## Construction

### Chamber and Doors

The fully jacketed chamber and doors are constructed from long lasting 316L grade stainless steel material, with superior corrosion resistance. 316Ti is also available. The autoclave doors are designed with a number of independent mechanical and digital safety features.

### Jacket

The jacket is constructed from 304L stainless steel material. 316L and 316Ti are also available.

### Piping

The pipes and fittings are constructed from stainless steel and brass. Pneumatically operated valves significantly reduce maintenance and downtime.

316L grade stainless steel piping, fittings, and components are available for clean steam applications. Clean steam can be used for tissue culture work, sterile water preparation and other special processes.

### Mounting

The sterilizer can be supplied in one of the following mounting alternatives:

- Pit Mounted
- Floor Mounted

### Panels

All Tuttnauer sterilizers are provided with #4 finish, 304L stainless steel fascia panels. Special panel designs can be constructed according to the customer's requirements.

### Sizes

All standard sterilizer dimensions have been chosen to ensure maximum space utilization. All sterilizers are designed to accommodate most standard sterilization containers and carts. Custom sizes can be provided upon request.

### Door Configurations

All bulk models can be manufactured in single or double door configurations, and come standard with automatic horizontal sliding door(s). Special door designs can be provided upon request.

### Steam Supply

The sterilizer uses saturated steam as the sterilization agent. The steam can be provided to the autoclave from the building's central source or a steam-to-steam generator. Electric steam generators are also available for certain bulk models. Contact a Tuttnauer representative for more information.

### Air Removal Method

Tuttnauer's prevacuum sterilization method substantially shortens cycle times. This is achieved by evacuating air from the chamber with a liquid ring vacuum pump, combined with steam pressure pulsing.

### Standards

Our high quality bulk size autoclaves comply with the strictest international directives and standards.

### Equipment Warranty

Coverage includes one year on parts (except expendables) and one year on labor. The ASME pressure vessel is further warranted to the original owner against material and workmanship failure for a period of 15 years from the date of initial operation.

## Designed to Handle Diverse Load Types

The Tuttnauer line of bulk autoclaves can handle a variety of load types. The sterilizer is provided with a total of 14 pre-set programs (up to 20 customizable) that range in temperature from 105°C - 137°C. Standard programs are set to handle:

- Sterilization of Liquids
- Gravity Cycles
- Prevacuum Cycles
- 2 test programs: Air Removal and Vacuum Leak

All programs are fully customizable to suit the specific needs and requirements of the end user.

## Advanced Sterilization Cycles

### F<sub>0</sub> Cycle

F<sub>0</sub> calculations begin when the slowest-to-heat load temperature sensor within the autoclave has reached a pre-determined set temperature. The cycle continues to calculate the F<sub>0</sub> function until the pre-determined setpoint is satisfied.

### Streaming Steam Cycle (105°C)

Low temperature sanitation cycle set at 105°C. Steam is allowed to enter the chamber and the fast exhaust valve is opened to allow steam to stream over the contents of the unit.

### Disinfection/Isothermal Cycle (70°C)

A flexible low temperature cycle enables disinfection. Temperature range settings are flexible within 70°C - 95°C range.

### Thermal Effluent Sterilization Cycle

Tuttnauer sterilizers can be customized to meet the specific requirements of laboratories classified as BSL3/4 where harmful pathogens and viruses that leave the sterilizer prior to disposal must be fully sterilized. The thermal effluent sterilization cycle will sterilize chamber air and wastewater prior to their release into the drain.

## Printer

For a clear and concise documentation of the sterilization process, the control unit is provided with a built-in printer. This provides real-time cycle data including the pressure, temperature, change of phase, alarms and a summary at the end of the cycle.

## Validation Packages

Tuttnauer provides our customers with services to help expedite the validation and commissioning of your equipment, including:

- Factory Acceptance Testing (FAT)
- Site Acceptance Testing (SAT)

## Advanced Control System for Your Laboratory

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

### Standard Features:

- 7" Multi-color touch screen panel
- Minimal or full control capabilities on the unloading side (double door autoclaves)
- Stores the last 200 cycles in built in memory
- Multiple access levels and user passwords for added security
- Diagnostic In/Out test (enables technician to check each system component separately)
- RS232, USB Ports
- Ethernet Connection
- Internal Battery Backup

### Optional Features:

- Barcode Reader
- Isothermal Cycle for low temperature disinfection
- F0 Software Control
- Remote Monitoring via R.PC.R Software Package

\*Allen-Bradley® control systems, featuring a color touch screen interface are available upon request. We offer both 7" and 10" screen sizes with the ability to store up to 20 cycles.

## 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

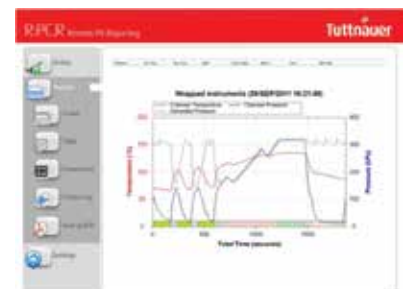
### Be in Control with Real-Time Remote Monitoring

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

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

Note:

- R.PC.R monitoring feature is not available with Allen Bradley controller



## A Flexible Range of Sizes and Models

Tuttnauer offers a wide range of bulk sterilizer models, ranging in volume from 2000 to 8720 liters. Additionally, we design custom sizes and offer the end-user an unlimited amount of upgrades to choose from. Each model is available in either single or double door configurations, and comes standard with automatic horizontal sliding door(s). Special door designs can be provided upon request.

Model	Chamber Dimensions (Inches)	Chamber Volumes Cubic Feet (Liter)
266276	26x62x76	71 (2000)
364872	36x48x72	72 (2030)
366260	36x62x60	77 (2190)
368686	36x86x86	154 (4360)
428686	42x86x86	180 (5090)
498686	49x86x86	209 (5930)
628686	62x86x86	265 (7510)
728686	72x86x86	308 (8720)



# Additional Options

## Loading Equipment

All Tuttnauer loading equipment is manufactured from high quality stainless steel material. Various cart configurations are available in order to accommodate both floor and pit mounted models.

- Loading Cart & Transfer Carriage
- Floor Loading Cart

Certain bulk models can be configured with a Drop Wheel Loading Cart, eliminating the need for a transfer carriage.

## Steam Generator

Contact a Tuttnauer representative to help you determine what generator type best fits your needs.

■ Floor Loading Cart



## Room Isolation Seals

To provide separation of dissimilar environments, the sterilizer can be fitted with the proper room isolation seal appropriately designed for the individual application.

- **Bio-Seal**  
Manufactured using a gasket material designed to prevent airborne contaminants from entering the clean areas of the facility.
- **Vermin Seal**  
Manufactured using stainless steel designed to prevent rodents from passing between areas.

## Air Compressor

Air compressors are available for certain bulk models. The compressor is used to operate the unit's pneumatic valves and/or power door.

## Water Conservation Systems

Utilizing tap or chilled water supplies. Savings can be up to 90% when compared to standard installations.

## Effluent Decontamination Systems

Tuttnauer's unique effluent sterilization (TESS) utilizes steam in lieu of filters to provide a continuous, zero maintenance effluent decontamination system. We also offer an alternative system based on HEPA filtration. While very effective, this option does require regular filter replacement.

## Other options that can be provided, include:

- Seismic Restraints
- Automatic Utility Startup/Shutdown
- RTD Load Probe with F<sub>0</sub> function

## Specifications

### Bulk Steam Sterilizers

Model	266276	364872	366260	368686	428686	498686	628686	728686
Chamber Dimensions WxHxL (Inches)	26x62x76	36x48x72	36x62x60	36x86x86	42x86x86	49x86x86	62x86x86	72x86x86
Chamber Volume Cubic Feet (Liter)	71 (2000)	72 (2030)	77 (2190)	154 (4360)	180 (5090)	209 (5930)	265 (7510)	308 (8720)
Pit Width (Finished)	7' 2"	9'	9'	10' 3"	10' - 11"	12'	13' - 9"	15' - 5"
Pit Length (Finished)	7' 6"	7' 6"	6' 5"	8' 6"	8' 6"	8' 6"	8' 6"	8' 6"
Pit Depth (Finished)	1'	1'	1'	1'	1'	1'	1'	1'
Installed Weight Empty Chamber Lbs (Kg)	8000 (3629)	7500 (3402)	13200 (5987)	15500 (7031)	17800 (8074)	20600 (9344)	23500 (10659)	27000 (12247)

### Utilities

Model		266276	364872	366260	368686	428686	498686	628686	728686
Plant Steam Supply 50-80 PSIG Dynamic 97-100% Dry Saturated Vapor Condensate Free	Recommended Pipe Size	2" NPT	2" NPT	2" NPT	2" NPT	2" NPT	2" NPT	2" NPT	2" NPT
	Flow Rate (Peak)	470 Lbs/Hr	470 Lbs/Hr	470 Lbs/Hr	900 Lbs/Hr	1180 Lbs/Hr	1225 Lbs/Hr	1450 Lbs/Hr	1725 Lbs/Hr
Cold Water Supply 45 PSIG Dynamic Min, 70° F Max Contact Tuttnauer for recommended Water Quality	Recommended Pipe Size	1 1/4" NPT	1 1/4" NPT	1 1/4" NPT	1 1/4" NPT	1 1/4" NPT	1 1/4" NPT	1 1/4" NPT	1 1/4" NPT
	Flow Rate (Peak)	20 GPM (76L)	20 GPM (76L)	20 GPM (76L)	25 GPM (95L)	25 GPM (95L)	25 GPM (95L)	30 GPM (114L)	30 GPM (114L)
Building Drain (Minimum)	Recommended Pipe Size	4"	4"	4"	4"	4"	4"	4"	4"
Compressed Air Requirements	75-95 PSIG Dynamic, 3.5 SCFM. 1/2" NPT								
Electrical Requirements (Control System)	1-Phase, 120V, 50/60Hz. 20A (Dedicated Line)								
Electrical Requirements (Vacuum Pump) *208V also available.		480V 20A	480V 20A	480V 20A	480V 30A	480V 30A	480V 30A	480V 36A	480V 36A

- Dimensions and weights are approximate and for reference only. • The addition of certain options could impact the above stated utilities.
- Contact a Tuttnauer representative to obtain certified drawings. • Due to continuing equipment development, specifications are subject to change without notice.

# Your Sterilization & Infection Control Partners



## 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.

## Global Partnerships

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

## 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.

## More from Tuttnauer:

Featuring Tuttnauer's range of cleaning, disinfection and sterilization solutions



Large Capacity Sterilizers  
for Medical Use



Horizontal Steam Sterilizers for Laboratory  
& Scientific Applications



Fully Automatic Table-Top  
Autoclaves



Manual Table-Top Autoclaves

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