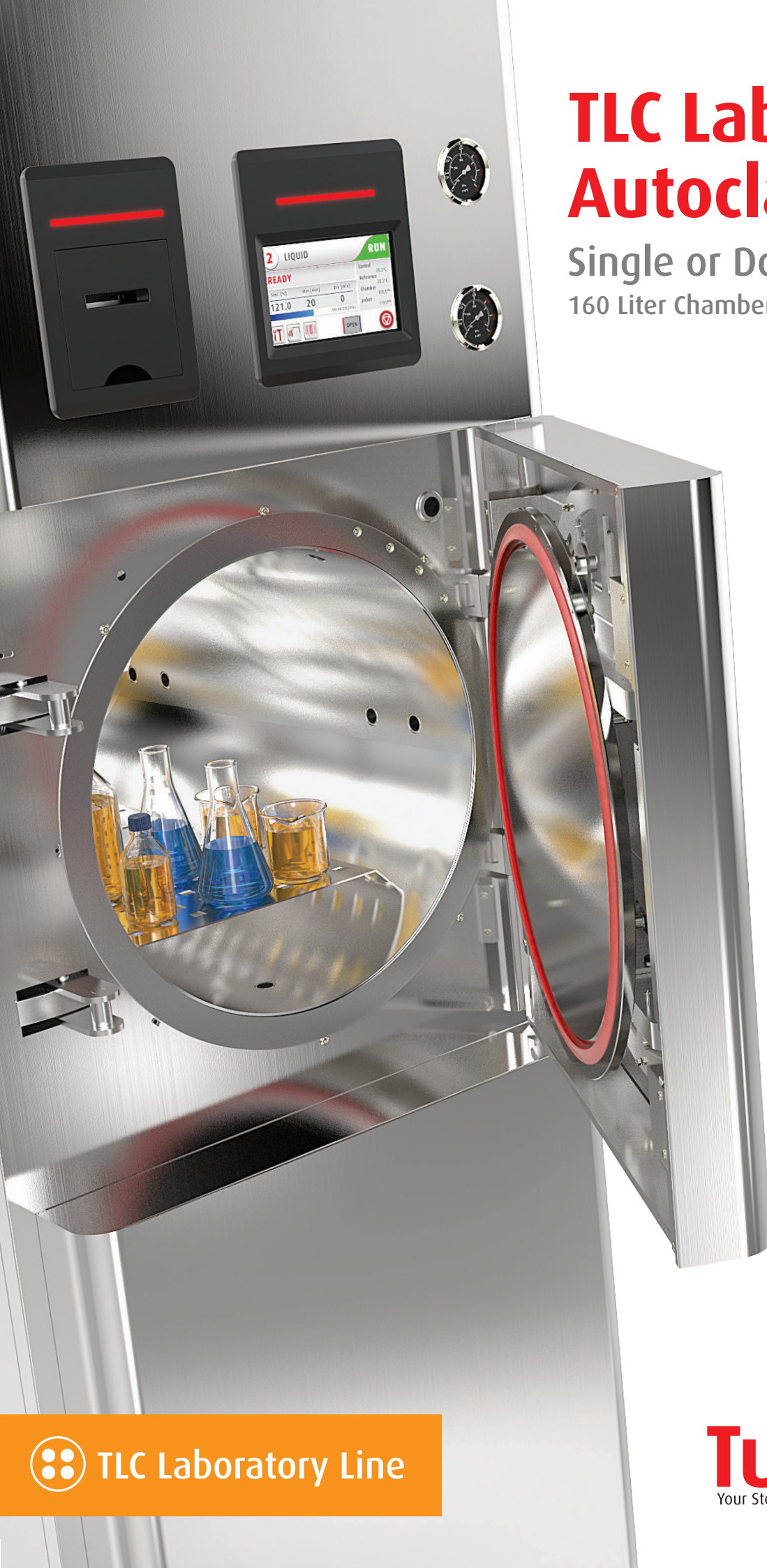


# TLC Laboratory Autoclaves

Single or Double Door

160 Liter Chambers



 TLC Laboratory Line

  
**Tuttnauer**  
Your Sterilization & Infection Control Partners



## TLC Laboratory Autoclaves

### Advanced Laboratory Autoclaves

Tuttnauer laboratory autoclaves have been designed to provide high quality repeatable performance and accountability for a wide range of applications used in modern laboratories, which include:

- Liquid sterilization (using two flexible PT100 probes) with various cooling options
- Tips and Glass sterilization
- Instrument sterilization (wrapped or unwrapped)
- Agar preparation
- Specialized customized cycles

### Experience since 1925

For over 95 years Tuttnauer, as a family-owned business, has been an industry leader satisfying customer expectations with top quality, high performance products and a dedicated service support team. Tuttnauer sterilization & infection control products are trusted at over 350,000 installations worldwide including Laboratories, Pharmaceutical Facilities, Hospitals and Clinics.



## Built-In Printer

Documents detailed history of each cycle

## 7" Touch screen

Full color display in multiple languages (on both sides with 2 doors)

## USB Data Connection

Save cycle data files on your PC with no additional software or specialized hardware.

## Pressure Gauges

Chamber & Steam Generator Pressure

## 316L Stainless Steel Chamber

Corrosion resistant chamber

## Coiled Jacket

Keeps the chamber warm during cycles & supports cooling

## Automatic Locking Doors

Doors locked and released automatically with electric-motor system

## Built-in 18 kW Steam Generator

Fast heat-up for efficient cycles

## Vacuum Pump

Efficient air removal and complete drying

## Swivel Wheels

Easy to move autoclave for installation & service



# Advanced Control System for Your Laboratory

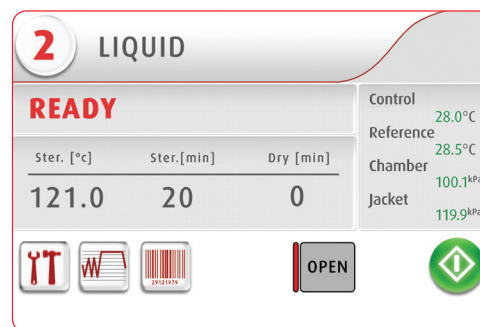
Take Advantage of Tuttnauer's state-of-the-art Control System with Multi-Color Display

## Features

- Two PT100 sensors according to IEC 61010-2-040 art. 7.106/3
- Two real-time clocks (RTC) for cross-checking timing accuracy
- Stores the last 200 cycles in built-in memory
- F<sub>0</sub> software control (option)
- Sterilization Temperature range 105°C to 138°C
- Isothermal Temperature range from 70°C to 95°C (optional)
- Ethernet connection port for PC and network access
- Multiple access levels and user passwords to control access/operation of the autoclave
- Controller & Software 21 CFR part 11 compliance (optional)
- PID (Proportional Integral Differential) pressure control
- Diagnostic In/Out test (enables technician to check each system component separately)
- Paperless independent chart recorder (optional) that measures temperature and pressure independent of autoclave control system.

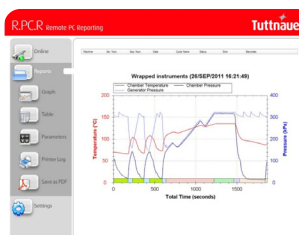
## Sophisticated Touch Screen HMI

- 7" multi-color touch screen panel (on both sides with 2 door configuration)
- Multi-color display for easier reading
- Quick access to important information
- 26 Languages
- Built-in view of historical cycle data



## R.P.C.R Software

Automatic recording software (optional) for recording cycle information to any PC on your network via Ethernet. Generate reports: graphs of cycle data, numeric cycle data, cycle print-outs, and more.



## Cycle Programs

30 program cycles are available with each autoclave. Up to 8 cycle programs are factory set according to optional features. The remaining cycles are fully customizable by the user.

### Standard Cycles

- Pre and Post vacuum cycles
- Solid and glassware loads at 134°C or 121°C for delicate loads (plastics)
- Liquid loads and waste liquids at 121°C
- Hollow, porous and textile loads at 134°C
- Waste: hollow, porous and textile at 121°C

### Test Cycles

- Air leakage test cycle
- Bowie & Dick steam penetration test at 134°C

### Optional Cycles

#### Media Processing Cycles

##### Isothermal Processing

For preparing agar and other biological media with a temperature range from 60°C to 95°C that allows for gentle heating and cooling.

##### Holding Temperature

Special program with programmable holding temperature at the end of the cycle to prevent cooling of media.

#### Special Custom Cycles

Tuttnauer is able to provide specifically customized cycles, including: material stress test, ageing test, varnish test, and others.

## 5075TLC-PVG

160 Liter Chamber Volume

### Standard Autoclave Features

- 7" Touch screen both sides
- Automatic locking hinged door(s)
- 18kW Built-in steam generator
- Built-in vacuum pump
- 316L Chamber
- Coiled jacket
- Fast cooling system
- 304 Stainless steel housing
- 2 Flexible temperature probes
- Built-in printer
- Built-in wheels
- Base plate shelf



## Technical Specification

Models	Doors	Chamber Volume (Liter)	Chamber Dimensions ØxD (mm)	External Dimensions WxHxD (mm)
5075TLC-PVG-1A 5075TLC-PVG-2A	1 door 2 doors	160	500 x 810	837 x 2027 x 1155 837 x 2027 x 1010
TLC Electrical Specifications (For all Models)	Voltage (V) 380 (3- phase) / 230 (3-phase) / 230 (1- phase)* Power 18 kW    Frequency 50-60 Hz			

\* requires additional 1-to-3 phase switch-box

### Schott Duran Flasks (ml) Loading Capacity

Standard base tray / Optional 2 Trays

Model	250	500	1000	2000	5000
5075TLC Standard	49	36	23	15	8
5075TLC 2 Trays	105	64	21	10	4

### Erlenmeyers Flasks (ml) Loading Capacity

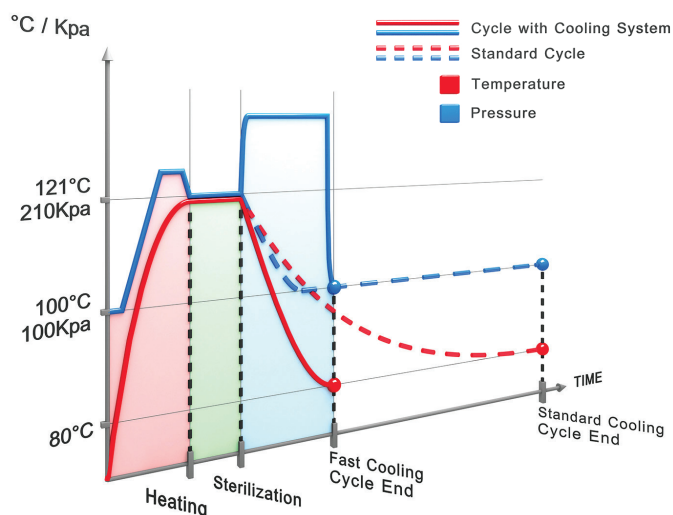
Standard base tray / Optional 2 Trays

Model	250	500	1000	2000	5000
5075TLC Standard	36	21	14	8	3
5075TLC 2 Trays	67	40	11	8	3

# Liquid Loads

## Liquid Load Fast Cooling Applications

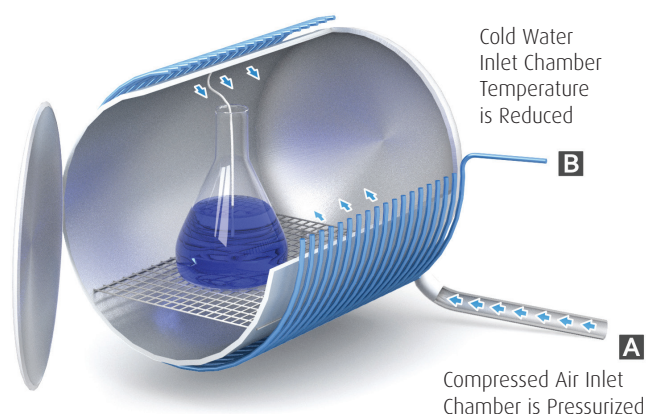
Sterilizing liquid requires longer heating and cooling times for completing a cycle, especially with sensitive liquid loads. When time is critical, advanced optional fast cooling features are available with Tuttnauer's laboratory autoclaves that prevent a sudden drop in chamber pressure which can cause liquids to boil over.



## Fast Liquid Cooling

After sterilization is completed, compressed air is passed through a microbiological filter into the autoclave chamber in order to prevent a drop in pressure. This prevents load deformation, cracks or spills. Cold water is then circulated through cooling pipes that rapidly reduces the chamber temperature and that of the liquid load to a safe temperature.

Tuttnauer's fast liquid cooling technology reduces cycle time by as much as 75% and minimizes load exposure to high temperatures.



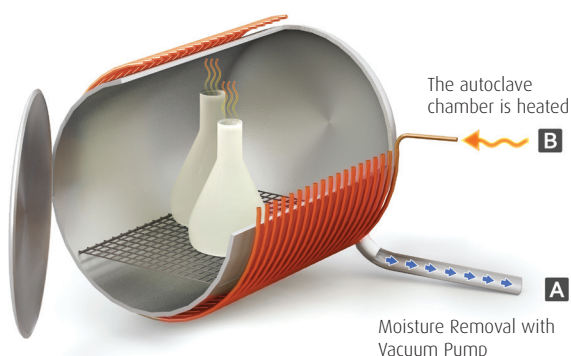
## Glassware, Hollow and Tip Applications

Efficient air removal is an important requirement for sterilizing hollow loads such as laboratory glassware, hollows, tips and textiles. Post vacuum moisture removal after sterilization also assists in fast drying of your sterilized loads.

### Fast and Efficient Heat-up

#### Immediate Steam and Efficient Air Removal

During the heat-up phase air is efficiently removed from the chamber by a strong vacuum pump. Steam, that is immediately available from the built-in steam generator, is then injected into the autoclave for immediate chamber heating.



### Complete Drying

#### Chamber Heating and Post Vacuum

Highly efficient drying is achieved by uniformly heating the chamber wall of the autoclave. The chamber is heated by passing steam through a coiled pipe around the chamber. The post vacuum stage reduces the boiling point which speeds up drying. This results in faster and complete drying, and guarantees that even the most difficult loads such as textiles, porous loads, hollow instruments and tips, will dry.



## Baskets

Stainless steel wire baskets and containers in different sizes for all autoclave models.



## Loading Equipment

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

The loading cart is available with one or two shelves.



## Standards

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

### Directives & Guidelines:

- PED 2014/68/EU Pressure Equipment Directive
- 2012/19/EU WEEE and EU 2017/2102 RoHS Directive
- ANSI/AAMI/ST8:2013 (R2018) Table Top steam sterilizer
- EN 13060:2014+A1:2018 Small steam sterilizer

### Safety and EMC Standards:

- IEC 61010-1:2010/AMD1:2016/COR1:2019 Safety requirements for laboratory use
- EN 61010-2-40: 2015 Safety requirements for sterilizers
- EN 61326-1: 2013 Electrical Equipment for EMC Requirements

### Pressure Vessel and Steam Generator Construction Standards:

- ASME Code, Section VIII, Division 1, Unfired Pressure Vessels
- ASME Code, Section I, for Boilers

### Quality System Compliance:

- ISO 9001:2015 (Quality Systems)
- EN ISO 13485: 2016 Quality Management System
- Canadian MDR (CMDR) SOR/98-282 (2018), consolidated
- In compliance with FDA QSR 21 CFR part 820 & part 11

### More From Tuttnauer

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



Bulk Laboratory Autoclaves



Horizontal Laboratory Autoclaves



ELV - Vertical Laboratory Autoclaves



EL - Benchtop Laboratory Autoclaves

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