

Sterilization and Infection Control



Leading Safety Standards

Superior Ease of Use

Reduced Cost of Ownership


Tuttnauer
Your Sterilization & Infection Control Partners

➤ Heidolph Tuttinauer Sterilizers

Safe Benchtop Steam Sterilization

Greater awareness of potential hazards. Ever more stringent regulations. Increasing emphasis on “green” facilities and processes. Now more than ever, it’s critical to decontaminate your laboratory’s equipment, materials and bio hazardous waste. That’s what the Tuttinauer Company is all about. For more than 80 years, Tuttinauer has been designing and manufacturing a wide range of laboratory sterilization equipment to safe guard you and your lab.

Tuttinauer’s “E model” benchtop sterilizers provide a fast, safe, dependable and convenient means of sterilizing instruments, glassware, and clothing. The line includes a wide range of models from our manually controlled analog “M” models to our electronically controlled “E” models with an optional built-in printer for GLP-compliant documentation.

Standard Operating Features

- Self-contained design eliminates external plumbing and hardwiring for easy installation
- Simple Operation
- ASME- stamped, 316 L stainless steel chamber ensures long-lasting reliability, durability and high corrosion resistance
- Fast/slow exhaust; fast exhaust allows quick cycle time of solids and slow exhaust for glassware
- Drying cycle removes residual moisture after sterilization
- Continuous pressure purge eliminates air pockets and ensures thorough, even sterilization
- Large-capacity reservoir provides an ample water supply to avoid frequent fill-ups; the water drain is conveniently located on top to allow for quick and easy cleaning of the reservoir
- Automatic shut-off feature saves energy
- **One-year warranty**

Standard Safety Features

- Heat-insulated, double-locking door protects against accidental burns; the door cannot be opened while the chamber is under pressure
- Automatic low water level shut-off prevents damage to the heater elements if there is insufficient water for the sterilization cycle
- Over-temperature cut-off and over-pressure valve ensure safe operation
- UL- and CSA-approved



Pre-Programed Cycles (E Models ONLY)

Sterilization Programs	Unwrapped instruments	Wrapped instruments and porous loads	Glassware	Dry ONLY
Temperature	134 °C (273 °F)	134 °C (273 °F)	121 °C (250 °F)	Alternative for when the dry time in the wrapped or unwrapped cycle is insufficient
Sterilization time	3 minutes	7 minutes	30 minutes	
Slow exhaust	n/a	n/a	15 to 20 minutes	
Dry time	none	Models EA- 30 min Models E/EK- 60 min	Not Allowed	

➤ Analog Sterilizers "M"

These manually operated models feature analog controls and gauges for simple operation. If you're tight on space, the new compact Model 1730M is the perfect choice for your basic solid sterilization needs.

Product Features

- 60-minute cycle timer
- Temperature selection from 100°C to 134°C (212°F to 273°F)
- Combination pressure and temperature gauge with peak indicator

Ordering Information

P/N	Description	Number of Stainless Steel Trays	Chamber Diameter	Voltage	Includes Stand
Analog M models					
023210002	Model 1730M	3	7- in	120V	-
023210100	Model 2340M	3	9- in	120V	-
023210304	Model 2540M	4	10- in	120V	-
023210479	Model 3850M	2	15- in	220V	yes
023210550	Model 3870M	2	15- in	220V	yes

Suitable for:  
Instruments Glassware



➤ Automated Electronic Sterilizers "E"




Every stage of the cycle, including water-fill, heating, sterilization, exhaust and drying, are microprocessor-controlled and completely automatic with these electronic models. The digital display continuously show you temperature, pressure and running time. Four fully adjustable, single-button programs make these sterilizers easy to use and ensure reproducible runs.

Product Features

- Sterilization time to 59 minutes
- Temperature selection from 105°C to 137°C (221°F to 279°F)
- In-line particle filter to protect valves
- Electronic pressure and temperature sensors
- Low-water alarm- sounds when reservoir needs to be refilled
- Standby heating- keeps chamber warm for quicker cycles

Ordering Information

P/N	Description	Number of Stainless Steel Trays	Chamber Diameter	Voltage	Includes Stand
Electronic E models					
023210207	Model 2340E	3	9- in	120V	-
023210282	Model 2340EA	3	9- in	120V	-
023210401	Model 2540E	4	10- in	120V	-
023210452	Model 2540E	4	10- in	220V	-
023210330	Model 2540EA	4	10- in	120V	-
023210665	Model 3545E	2	12.2- in	220V	-
023210487	Model 3850E	2	15-in	220V	yes
023210606	Model 3870E	2	15-in	220V	yes
023210657	Model 3870EA	2	15-in	220V	yes
Accessories					
023212005	Printer, for Models 2340E, 2540E, 3850E, and 3870E				
023212200	Package of 5 rolls printer paper, for EP models				
023212609	Stand, for all 3850 and 3870 models				
023212105	Printer DPU30 Seiko, 3545 & ELV				

Suitable for:   
Instruments Glassware Wrapped Instruments



EP Models

- EP Models help you meet GLP documentation requirements. These sterilizers have a built-in printer that provides a printed summary at the end of each cycle documenting temperature, sterilization, elapsed drying times for selected cycle, cycle number, real time and date, as well as any errors or interruptions that may have occurred during the cycle.

Ordering Information

P/N	Description	Number of Stainless Steel Trays	Chamber Diameter	Voltage	Includes Stand
Electronic EP models, with printer					
023210215	Model 2340EP	3	9- in	120V	-
023210266	Model 2340EP	3	9- in	220V	-
023210410	Model 2540EP	4	10- in	120V	-
023210461	Model 2540EP	4	10- in	220V	-
023210444	Environmental Model 2540EPK	4	10- in	220V	-
023210690	Model 3545EP	2	12.2- in	220V	-
023210495	Model 3850EP	2	15- in	220V	yes
023210568	Model 3870EP	2	15- in	220V	yes
023210673	Model 3870EAP	2	15- in	220V	yes

EA Models

- EA Models are ideal for sterilizing wrapped and sealed instruments. These fully automatic autoclaves are specially designed with preloaded cycles for sterilizing packs, pouches, sealed pipette racks, unwrapped instruments and other contained/wrapped materials. The highly efficient air-driven pump circulates hot air after the sterilization cycle to ensure thorough drying of samples and to reduce overall drying time.




➤ Accessories - Autoclave



Ordering Information

P/N	Description
023212200	Package of 5 rolls printer paper, for EP models
023212607	Stand for 5075EP
023212609	Stand, for all 3850 and 3870 Bench Top Models
023212803	Chamber BRITE Sterilizer Cleaner
023212612	Urethane Casters set 4" Diameter for 5075 Stand, Casters welded to stand legs and must be ordered with 023212607

Technical Specifications

Model	Model 1730	Model 2340	Model 2540	Model 3545	Model 3850	Model 3870	
Power Supply	1,050 W	1,400 W	1,400 W	2,200 W	2,400 W	2,400 W	
Current	11 A	12 A	12 A	13.6 A	13.6 A	13.6 A	
Phase	1	1	1	1	1	1	
Chamber Volume	Gallons	2	5	6	7.8	17	22
	Liters	7.5	19	23	34.4	65	84
Chamber Dimension (Dia. x D)	Inches	7 x 12	9 x 18	10 x 18	12.2 x 18.5	15 x 20	15 x 27
	Centimeters	17.8 x 30.5	22.9 x 42.7	25.4 x 45.7	31 x 46.9	38.1 x 50.8	38.1 x 68.6
Tray Dimensions (W x D x H)	Inches	4.7 x 11.6 x 0.8	6.7 x 16.3 x 0.8	6.7 x 16.3 x 0.8	7.8 x 16.1 x 1	14 x 20 x 1	14 x 26 x 1
	Centimeters	12 x 29.5 x 2	17 x 41.5 x 2	17 x 41.5 x 2	19.8 x 40.8 x 2.5	35 x 50 x 2.5	35 x 67 x 2.5
Overall Dimensions (W x D x H)	Inches	17 x 16 x 12.5	20 x 20 x 15	20 x 20 x 15	23.5 x 21.5 x 18	26 x 27 x 21	26 x 34 x 21
	Centimeters	43.2 x 40.6 x 31.8	50.8 x 50.8 x 38.1	50.8 x 50.8 x 38.1	29.7 x 54.6 x 45.7	66 x 68.6 x 53.3	66 x 86.4 x 53.3
Reservoir volume (W x D x H)	Gallons	0.8	0.8	0.8	0.8	1.6	1.6
	Liters	3	3	3	3	6	6
Minimum Water	Gallons	0.21	0.21	0.21	0.21	0.53	0.53
Volume in Reservoir	Liters	0.8	0.8	0.8	0.8	2	2
Net Weight	Pounds	55	79	106	132	196	225
	Kilograms	25	36	48	60	89	102
4980 Erlenmeyer Flask Size	125 ml	5	12	12	24	63	68
	500 ml	-	4	4	10	12	17
	1 L	-	-	3	6	7	10
	2 L	-	-	-	-	3	4
500 ml Media Bottle		-	-	9	12	15	17
Bottom Tray to Top of Chamber	5 in	6 in	8 1/8 in	10 in	12 in	12 in	
Middle Tray	3 3/4 in	5 in	6 in	-	-	-	
Top Middle Tray	-	-	3 3/4 in	-	-	-	
Top Tray	-	3 in	2 1/2 in	5 1/8 in	7 3/8 in	7 3/8 in	
Voltage		120V OR 220V			220V		
Nema Plug	120V (5-15R)						
	220V (6-15R)						
Max. Allowable Working Pressure (MAWP)		2.76 bar (40 psi)					
Water Pump Fuse		1.25 amps					
Air Pump Fuse	120V	2.0 amps					
	220V	1.25 amps					
Shipping Weight	Pounds	55	79	106	132	196	225
	Kilograms	25	36	48	60	89	102
	Cubic Feet	6.35	9.4	9.4	12.4	22.2	26.8
Shipping Volume	m³	0.18	0.27	0.27	0.35	0.63	0.76

Heidolph Tuttner Laboratory and Benchtop Vertical Autoclaves



Advanced Laboratory Autoclaves

Tuttner 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
- Pipette and Glass sterilization
- Instrument sterilization (wrapped or unwrapped)
- Biohazard and Waste sterilization
- Agar preparation
- Specialized customized cycles

The laboratory autoclave line is designed for laboratory applications used in research institutes, universities, medical, pharmaceutical, biotechnology, food and chemical industries. Each model has a number of optional added-value features which can be configured for fast cooling ("C"), efficient drying ("PV"), efficient heating ("G"), biohazard and waste sterilization ("BH"), built-in water reservoir ("WR" - ELV models only), Fo control, and more. Benchtop lab autoclaves are designed to save space on your laboratory workbench. Vertical lab autoclaves are designed for your convenience and ease of use when vertically loading the autoclave.



Advanced Control System for Your Laboratory

- **F₀ software control**- Protect your liquid media, save time, save energy: An additional challenge with liquid sterilization is the need to prevent liquid media exposure to high temperatures for a long time, which may harm the quality of the liquid media. The advanced Fo optional feature minimizes the time liquids are exposed to high temperatures during sterilization there by protecting liquid media, saving your lab time and reducing energy consumption
- Stores the last 200 cycles in built-in memory
- Passwords for access level control
- The controller and software comply with the 21 CFR part 11 standard with optional R.P.C.R. software
- Sterilization Temperature range 105°C to 137°C
- Optional Disinfection/Isothermal Temperature Range 60°C to 105°C
- Optional Independent Recording for cross-checking cycle measurements
- Filter replacement notifications based on the number of cycles, optional air exhaust filtration for (hazardous) waste sterilization
- Optional air over pressure cycle is intended to sterilize liquids in heat sensitive bags in order to avoid expansion and distortion of the bags under steam pressure.
- Optional Fast Liquid Cooling- The chamber is surrounded by coils that are filled with cold tap water to help, rapidly cooling down the chamber to safe temperature, reducing the cycle time and protecting the load by minimizing its exposure to high temperatures (5075ELVC Model only)

Sterilization Programs

Sterilization Programs			
Program	Description	Temperature	Sterilization time (minutes)
1	Glass	134°C	3
2	Plastic	121°C	15
3	Liquid A	121°C	15
4	Liquid B Waste	121°C	30

*Can program to a total of 20 Custom Cycles

Lab Line Features

Codes for Main Optional Features

Feature Code	Feature Name	Feature Description
C	Fast cooling (up to 75%)	Water circulation through cooling pipes cools chamber
C + F	Super fast cooling (up to 90%)	Water circulation through cooling coils and air ventilation with fan rapidly cools chamber
PV	Efficient air removal Efficient moisture removal	Efficient air and moisture removal by vacuum pump
G	Efficient heating	Efficient heating by steam from steam generator
PV G	Complete drying	Steam from generator in combination with vacuum for complete drying
BH	Biohazard and Waste System	Biohazard filtration of air removed from chamber before sterilization. Also used for waste sterilization.
WR	Water Reservoir	Mineral free water reservoir for vertical autoclave to avoid water filling & drain connection.

* Configuration available upon appointment with consultation

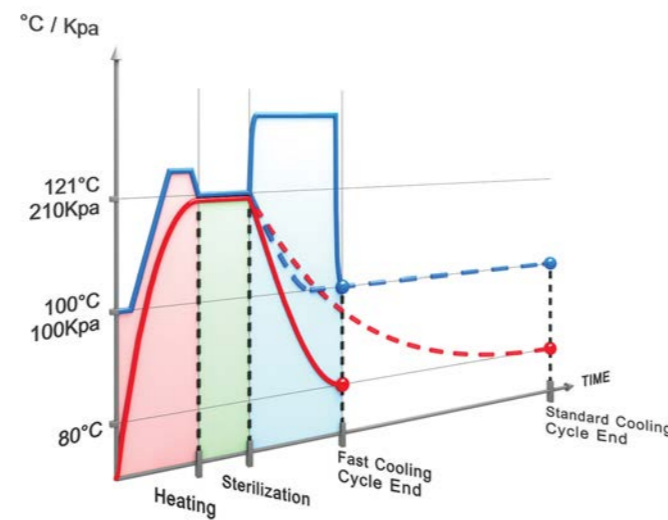
Liquid Load Fast Cooling Applications

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 which also 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 and tips where the standard gravity displacement air removal method is not effective. Air removal after sterilization also assists in fast drying of your laboratory glassware.




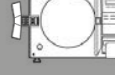




Efficient Air Removal

An optional vacuum pump can be used for fractioned pre vacuum air removal eliminating air pockets from all load types and maximizing efficient steam penetration throughout the entire load.

Active Drying with Post Vacuum

For benchtop autoclaves, an optional vacuum pump can be used for post vacuum drying, at the end of the sterilization cycle, ensuring improved drying of porous loads and hollow instruments such as pipette tips. The benchtop autoclave is equipped with a heating plate attached under the chamber that heats the chamber during the drying phase. The low pressure in the autoclave chamber, caused by the vacuum, reduces the boiling temperature forcing moisture to evaporate rapidly. The vapour is then removed from the chamber by vacuum resulting in a dry load.

Lab Line Technical Specifications

				
Model	Model 2840 EL 02321067	Model 3850 EL 023210680	Model 3870 EL 023210672	Model 5075 EL 023210675
Power Supply	2200 W	3200 W	4800 W	6600 W
Current	10 A	10 A	10 A	10 A
Phase	Single	Single	Three	Three
Chamber Volume	Gallons	7.4	17	22
	Liters	28	65	85
Chamber Dimension (Dia. x D)	Inches	11x15.7	15 x 20	15 x 27
	Centimeters	28 x 40	38.1 x 50.8	38.1 x 68.6
Tray Dimensions (W x D x H)	Inches	6.7 x 16.3 x 0.8	14 x 20 x 1	14 x 26 x 1
	Centimeters	17 x 41.5 x 2.1	35 x 50 x 2.5	35 x 67 x 2.5
Overall Dimensions (W x D x H)	Inches	20.9 x 24.8 x 17.3	28.3 x 30.1 x 21.3	28.3 x 37 x 21.3
	Centimeters	53 x 63 x 44	72 x 76.5 x 54	72 x 94 x 54
Reservoir volume	Gallons	1.7	1.9	1.9
	Liters	6.5	7.1	7.1
Net Weight	Pounds	94.8	264.6	286.6
	Kilograms	43	120	130
Bottom Tray to Top of Chamber	9	12.1	12.1	17
Middle Tray	7.7	x	x	
Top Middle Tray	6	x	x	
Top Tray	4.5	7.5	7.5	
Voltage	230, 1-Phase	230, 1-Phase	230, 3-Phase	230, 3-Phase
Nema Plug				
Shipping Weight	Pounds	168	196	225
Shipping Volume	Cubic Feet	9.21	22.2	26.8
	m³	.26	.63	.76




Erlenmeyer Flasks (ml) Loading Capacity

Model	250	500	1000	2000	3000	5000
2840	1 x 9	1 x 4	1	0	0	0
3850	1 x 17	1 x 11	1 x 6	1 x 3	0	0
3870	1 x 23	1 x 17	1 x 10	1 x 5	0	0
5075	1 x 50 1 x 18	1 x 18 1 x 18	1 x 15	1 x 7	1 x 4	1 x 3

Schott - Duran Flask (ml) Loading Capacity

Model	250	500	1000	2000	5000
2840	1 x 12	1 x 9	1 x 5	0	0
3850	1 x 27	1 x 16	1 x 11	1 x 6	0
3870	1 x 36	1 x 23	1 x 18	1 x 9	0
5075	1 x 55 1 x 39	1 x 32 1 x 27	1 x 20	1 x 10	1 x 5

ELV Technical Specifications

Model	2840ELV Mobile	3870ELV Mobile	5075ELVC
P/N	023210744	023210745	023210990
Chamber Volume	31L	85 L	160 L
	"Plug & Play" to operate only with an electric power connection. No need to connect autoclave to building utilities for distilled water, tap water and drain .	"Plug & Play" to operate only with an electric power connection. No need to connect autoclave to building utilities for distilled water, tap water and drain .	Mobile is not an option and must be connected to building utilities for distilled water, tap water and drain
Chamber Dimensions (Dia. x Depth)	28 x 46 cm	38 x 70 cm	50 x 75 cm
Overall Dimensions (D x W x H)	54 x 98 x 44cm 21 x 39 x 17in	73 x 107.5 x 73cm 29 x 42 x 29in	110 x 86.6 x 71.5 cm 43 x 34 x 28 in
Max Temperature	135C	135C	135C
Chamber Material	Stainless Steel 316 Ti (1.4571)	Stainless Steel 316 Ti (1.4571)	Stainless Steel 316 Ti (1.4571)
Housing/Door Material	Stainless Steel 304 L	Stainless Steel 304 L	Stainless Steel 304 L
Comes Standard with Units			
Internal Thermometer	included	included	included
Sample Temperature Probes	set of 2, included	set of 2, included	set of 2, included
Water-sensing Electrode	included	included	included
External Pressure Gauge	included	included	included
Printer	included	included	included
USB	included	included	included
Wire Baskets	set of 2 (small)	set of 2 (large)	set of 2 (large)
Wheels w/ lock	included	included	n/a
Plug Configurations			
			
Customer must supply		These units do not come with a plug. Nema (L15-20P & R or L14-20R & P) will need to be installed.	These units do not come with a plug. Nema (L15-30P & R or L14-30R & P) will need to be installed.
Voltage requirements	230V/ 50-60 Hz, Single Phase	230V/ 50-60 Hz, 3-phase	230V/ 50-60 Hz, 3-phase
Amps	15A	20A	30A
Power requirements	2.2 KW	6.0 KW	9.0 KW
Requirements			
Compressed Air	n/a	n/a	1/2" 3-4 Bar (44-58 psi)
Tap Water	n/a	n/a	1/2" 3-4 Bar (29-44 psi)
Mineral Free Water	RO or Distilled	RO or Distilled	1/2" 2-3 Bar (29-44 psi) RO or Distilled
Drain	n/a	n/a	2" Min Withstanding temp of 80C (176F)

P/N	Description	For use in	D x H (in)
023211850	Wire Basket, small	3870 ELV	14.06 x 8.6
023211840	Wire Basket, large	3870ELV	14.06 x 13
023211790	Wire Basket, large	5075ELV	18.3 x 13.7
023211795	Wire Basket, small	5075ELV	18.3 x 9.2

Solid Baskets, ideal for medical waste sterilizations			
P/N	Description	For use in	D x H (in)
023211860	Solid Basket, small	3870ELV	14.41 x 8.6
023211870	Solid Basket, large	3870ELV	14.41 x 13
023211890	Solid Basket, large	5075ELV	18.6 x 13.7
023211895	Solid Basket, small	5075ELV	18.6 x 9.2

Heidolph Tuttbauer Autoclaves - Services

All Heidolph Tuttbauer sterilizers require general maintenance and cleaning. A sterilizer often requires regulatory compliance at some local, or federal standard based on the application within the operation of the unit. Our factory trained technicians are here to provide basic product upkeep, and to support your sterilizer through a variety of services outlined below:

Preventative Maintenance

(with and without calibration recommended yearly on site or in house)

- Replacement of: Chamber BRITE, safety valve, safety valve holder, door bellows, door gasket, clean water electrode, strainer, and inspect the reservoir and piping
- Solenoid Valves are checked for proper operation
- Safety features are tested
- Preventative maintenance agreements come with discount on parts
- PM with Calibration**
 - Includes everything included with the PM service, plus temperature and pressure calibration with temperature mapping
 - A total of three cycles with probes will be run

IQ/OQ

(recommended)

- Documented proof that facilities and equipment have been delivered and installed, in accordance with the requirements and safety regulations stipulated in the design qualifications
- Consists of:
 - IQ/OQ test plan and report
 - Temperature and pressure mapping

IQ/OQ/PQ

- Documented proof that facilities and equipment have been delivered and installed, in accordance with the requirements and safety regulations stipulated in the design qualifications
- Consists of:
 - IQ/OQ/PQ all testing and reports in the IQ/OQ plus a half and full load cycle tests
 - Please contact Heidolph to discuss your PQ needs to structure the load testing to meet you application

Part Number	Description
080000850	IQ/OQ Service- All Models
080000126	Lab Line Autoclave On-site Setup and Training
080000851	IQ/OQ/PQ*
080000017	Tuttbauer On-Site Service

Part Number	Description
080000128	"E" Model On-Site Setup and Training
080000115	Preventive Maintenance Service
080000116	Preventive Maintenance with Calibration Service

HEIDOLPH SUPPORT CENTER

Customer Service: 866-650-9604

Online Support: service@heidolph.com

We respond in 24 hours or less....

Guaranteed!



➤ Heidolph Tuttbauer 5075HSG Pre & Post Vacuum Autoclave

The 160 liter stand-alone pre & post vacuum autoclave.

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.

Autoclave Features

- High volume water-ring vacuum pump for fast and efficient air removal
- Stand-by heating mode keeps the autoclave warm and ready for use
- 316L grade stainless steel chamber and door with electro-polish finish
- Two RTD load probes for liquid cycles
- Double locking safety device prevents door from opening at high pressure and high temperature
- Control lock-out switch prevents start a cycle if door is not properly locked
- Built-in alpha-numeric printer
- Mounted on wheels for easy mobility and sterilization on demand
- Installation, Training and Freight Part Number provided on a case by case basis
- Contact a Heidolph representative to obtain certified drawings
- ONLY One chamber size available

Model	5075HSG (Includes Built-In Generator)
Chamber Dimension (Dia x L) (inches)	19.5" x 29.5"
Chamber Volume (Liters)	160
No. of Shelves	2
Shelf Dimensions W x H x L (inches)	Small: 11.9" x 0.8" x 27.6"
	Large: 18.6" x 0.8" x 27.6"
Electrical Requirements (Control System, Vacuum Pump)	1-Phase, 120V, 20 AMP
Electrical Requirements (20kW Generator)	3-Phase, 208V, 56 AMP (Draw)
	or 3-Phase, 480V, 25 AMP (Draw)
Plant Steam Supply	N/A
Cold Water Supply	3/4" NPT
Building Drain *Floor Sink Recommended	2"
Heat Load to Room (Btu/Hr)	4750
Overall Dimensions W x H x L (inches)	33.6" x 65.4" x 44.8"
Autoclave Weight (Lbs)	935



P/N 01970000

Model		Bottom Shelf ONLY	Horizontal
Erlenmeyer Flask	250ml	36	1 x 50 1 x 18
	500ml	24	1 x 18 1 x 18
	1000ml	15	1 x 15
	2000ml	8	1 x 7
	3000ml	7	1 x 4
	5000ml	3	1 x 3
Schott Duran	250ml	50	1 x 55 1 x 39
	500ml	36	1 x 32 1 x 27
	1000ml	24	1 x 20
	2000ml	13	1 x 10
	5000ml	8	1 x 5

Sterilization Programs			Sterilization time (minutes)	Dry time (minutes)
Program	Description	Temp		
1	Unwrapped Instruments	1340C (2730F)	4	1
2	Wrapped Instruments	1340C (2730F)	4	20
3	Wrapped Pouches	1340C (2730F)	7	30
4	Unwrapped delicate instruments	1210C (2500F)	20	0
5	Wrapped delicatated instruments	1210C (2500F)	20	20
Test Programs				
Test	Description			
1	Leak test	n/a	5 + 10 min test time	n/a
2	B&D test	1340C (2730F)	4	2

➤ Large Capacity Autoclaves

The Heidolph Tuttbauer offers an unmatched range of models that are available in three series: Compact, Mid Range, and Large Capacity. The sterilizer chambers range in volume from 120 to 1015 liters. Additional, we design customer 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.



44 and 55 Compact Series

Small Laboratory Autoclaves with chamber volumes from 120 to 250 liters.

The 44 and 55 series are available with following door options:

- Fully automatic vertical sliding door
- Manual Hinged Door

We offer 2 different models

66 Mid Range Series

Medium Laboratory Autoclaves with chamber Volumes from 340 to 660 liters.

The 66 series is available with the following door options:

- Fully Automatic vertical sliding door
- Hinged door with automatic locking

We offer 5 different models

69 Large Capacity Series

Large Laboratory Autoclaves with chamber volumes from 510 to 1015 liters

The 69 Series is available with the following door options:

- Fully automatic horizontal sliding door
- Hinged door with automatic locking

We offer 7 different models

Specifications

Compact & 66 Mid Range Series

Model		4472	5596	66A	66B	66C	66D	66E
Chamber Dimensions WxHxL (Inches)		16x16x28	20x20x38	24x24x36	24x24x48	26x26x39	26x26x49	26x26x60
Chamber Volume Cubit Feet (Liter)		4 (120)	9 (250)	12 (340)	16 (450)	15 (430)	19 (540)	23 (660)
External Dimensions Cabinet Enclosed WxHxL (Inches)	Single Hinged Door	28x75x51	28x75x60	43x75x56	43x75x68	46x75x71	46x75x71	46x75x81
	Single Sliding Door	31x75x46	33x75x53	40x75x60	40x75x72	40x78x67	40x78x67	40x78x77
	Double Hinged Door	45x75x46	49x75x53	58x75x52	58x75x64	60x75x66	60x75x66	60x75x77
	Double Sliding Door	47x75x46	53x75x49	60x75x59	60x75x71	64x78x69	64x78x69	64x78x79
Autoclave Weight Empty Chamber Lbs (kg)	Single Sliding Door	1100 (499)	1760 (798)	2955 (1340)	3200 (1451)	3150 (1429)	3350 (1520)	3550 (1610)
	Double Sliding Door	1250 (567)	1910 (866)	3205 (1454)	3450 (1565)	3400 (1542)	3600 (1633)	3800 (1724)

Utility Consumptions / Requirements

Model		4472	5596	66A	66B	66C	66D	66E
Plant Steam Supply 50-80 PSIG Dynamic 97-100% Dry Sturated Vapor Condensate Free	Pipe Size	3/4" NPT	3/4" NPT	1" NPT	1" NPT	1" NPT	1" NPT	1" NPT
	Flow Rate	48 Lbs/Hr Peak 17Lbs/ Cycle Avg.	100 Lbs/Hr Peak 22Lbs/ Cycle Avg.	160 Lbs/Hr Peak 26Lbs/ Cycle Avg.	203 Lbs/Hr Peak 29Lbs/ Cycle Avg.	160 Lbs/Hr Peak 26Lbs/ Cycle Avg.	203 Lbs/Hr Peak 29Lbs/ Cycle Avg.	246 Lbs/Hr Peak 32Lbs/ Cycle Avg.
Cold Water Supply 30-70 PSIG Dynamic, 60-70°F Contact Hei-dolph for Recommen-ded Water Quality	Pipe Size	3/4" NPT	3/4" NPT	1" NPT	1" NPT	1" NPT	1" NPT	1" NPT
	Flow Rate (Peak)	4 GPM (15L)	8 GPM (30L)	12.5 GPM (47L)	14 GPM (53L)	13.5 GPM (51L)	15 GPM (57L)	19 GPM (72L)
Building Drain	Pipe Size	2" ODT	2" ODT	2" ODT	2" ODT	2" ODT	2" ODT	2" ODT
Compressed Air Requirements	75-95 PSIG Dynamic, 3.5 SCFM. 3/8" NPT							
Electrical Requirements (Control System)	1- Phase, 120V, 50/60 Hz. 20A							
Electircal requirements (Optional Vacuum Pump)	208V	208V	208V	208V	208V	208V	208V	208V
	3.1A	3.1A	7.6A	7.6A	7.6A	7.6A	7.6A	7.6A
	120V	120V	480V	480V	480V	480V	480V	480V
	5.9A	5.9A	4.3A	4.3A	4.3A	4.3A	4.3A	4.3A
Electrical Requirements (Optional Steam Generator)	Contact a Heidolph representative for specific electrical requirements							

*Dimensions and weights are approximate and for reference only.

*The addition of certain options could impact the above stated utilities

*Contact a Heidolph representative to obtain certified drawings.

*Due to continuing equipment development, specifications are subject to change without notice

*Request an Industrial Checklist from your Heidolph Specialist today

Specifications

Compact & 69 Mid Range Series

Model		69A	69B	69C	69D	69E	69F	69G
Chamber Dimensions WxHxL (Inches)		24x36x36	24x36x48	24x36x60	24x36x72	26x37.5x36	26x37.5x48	26x37.5x60
Chamber Volume Cubit Feet (Liter)		18 (510)	24 (680)	30 (840)	36 (1015)	20 (575)	27 (760)	34 (950)
External Dimensions Cabinet Enclosed WxHxL (Inches)	Single Hinged Door	53x75x56	53x75x68	53x75x80	53x75x92	55x75x56	55x75x68	55x75x80
	Single Sliding Door	75x75x62	75x75x74	75x75x86	75x75x98	79x75x62	79x75x74	79x75x86
	Double Hinged Door	58x75x52	58x75x64	58x75x75	58x75x87	60x75x52	60x75x64	60x75x76
	Double Sliding Door	75x75x63	75x75x75	75x75x86	75x75x98	79x75x63	79x75x75	79x75x87
Autoclave Weight Empty Chamber Lbs (kg)	Single Door	3440 (1560)	3770 (1710)	4100 (1860)	4500 (2041)	3640 (1651)	3970 (1801)	4300 (1950)
	Double Door	3740 (1696)	4070 (1846)	4400 (1996)	4800 (2177)	4800 (2177)	4270 (1937)	4600 (2087)

Utility Consumptions / Requirements

Model		69A	69B	69C	69D	69E	69F	69G
Plant Steam Supply 50-80 PSIG Dynamic 97-100% Dry Sturated Vapor Condensate Free	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
	Flow Rate	235 Lbs/Hr Peak 30Lbs/ Cycle Avg.	300 Lbs/Hr Peak 32Lbs/ Cycle Avg.	370 Lbs/Hr Peak 34Lbs/ Cycle Avg.	435 Lbs/Hr Peak 36Lbs/ Cycle Avg.	245 Lbs/Hr Peak 31Lbs/ Cycle Avg.	310 Lbs/Hr Peak 33Lbs/ Cycle Avg.	380 Lbs/Hr Peak 35Lbs/ Cycle Avg.
Cold Water Supply 30-70 PSIG Dynamic, 60-70°F Contact Hei-dolph for Recommen-ded Water Quality	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
	Flow Rate (Peak)	18 GPM (68L)	20 GPM (76L)	22 GPM (83L)	24 GPM (91L)	18 GPM (68L)	20 GPM (76L)	22 GPM (83L)
Building Drain	Pipe Size	3" ODT	3" ODT	3" ODT	3" ODT	3" ODT	3" ODT	3" ODT
Compressed Air Requirements	75-95 PSIG Dynamic, 3.5 SCFM. 3/8" NPT							
Electrical Requirements (Control System)	1- Phase, 120V, 50/60 Hz. 20A							
Electircal requirements (Optional Vacuum Pump)	208V	208V	208V	208V	208V	208V	208V	208V
	18A	18A	18A	18A	18A	18A	18A	18A
	120V	120V	120V	120V	120V	120V	120V	120V
	9.5A	9.5A	9.5A	9.5A	9.5A	9.5A	9.5A	9.5A
Electrical Requirements (Optional Steam Generator)	Contact a Heidolph representative for specific electrical requirements							

Benefits of Choosing Tuttnauer

- The control panel is an advanced microprocessor providing significantly greater accuracy than an electro-mechanical control. The control is isolated and covered to protect it from heat and moisture damage.
- All Piping is corrosion resistant stainless steel and has unions between components to make maintenance much easier. You do not have to dismantle large sections of piping just to replace a single part. A design that will minimize any down time.
- Control valves are air driven (pneumatic) and last 4-5 times longer than older style electromagnetic valves
- The chamber and jacket are 100% stainless steel. The jacket is 304 SS and the chamber is 316L SS for superior corrosion resistance and is very stain resistant for easier maintenance/clean up in event of a spill.
- The chamber is fully insulated to be energy efficient and prevent heat loss and thermal loading of the work area. The Unit must have a full 2" thickness of rigid, chloride free insulation. This is important in a moisture laden environment. The insulation is then completely covered with corrosion resistant stainless steel cladding to prevent damage and degradation of the insulation.

➤ PUREWISE Water Distillers

Think wise. Think Pure. Think Tuttnauer.

PUREWISE water distillers operate by heating water to 212°F (100°C), which kills bacteria, cysts and or viruses that may be present, and converting it to steam. As the steam rises it leaves behind any solids, salts, heavy metals, etc.; low-boiling, light gases are discharged through the gaseous vent. The steam is then cooled in the stainless steel condenser, where it turns back into high quality, pure water. To further enhance water quality, the distilled water passes through a coconut shell carbon filter to extract any volatile organic compounds (VOCs) and is finally deposited in the unit's GE Lexan polycarbonate collection/storage container.



Product features

- Effectively removes most tap water impurities
- East-to-remove boiler for manual fill- no water hookup
- Automatic shut-off after 1-gallon cycle
- Rust-proof stainless steel condenser
- Unique recessed heating base reduces scale buildup
- Includes collector/storage bottle
- UL listing: #28KL
- Water system is 99% free of impurities

Additional product features of Model 7000 series

- Extra-large capacity
- Benchtop and floor-standing models available
- Front- or side-mounting spout for easy dispensing and storage
- Directly connects to tap water supply for continuous operation

Technical specifications

Model	9000	7000	7000-8	7000-12
Distillate capacity	1 gal/3.8L in 4.5h; up to 5gal/18.9L in 24h	3.5 gal/13.3 L in 18h	8 gal/30.4 L in 28 h	12 gal/45.6 L in 30 h
Power supply	115V/ 60 Hz	115V/ 60 Hz	115V/ 60 Hz	115V/ 60 Hz
Dimensions (W x H x D)	9.5 x 15 x 16 in	11 x 17 x 17 in	11 x 36 x 17 in	11 x 42 x 17 in
Weight	10lb/ 4.5kg	30lb/ 13.5kg	37lb/ 16.5kg	44lb/ 20kg

Ordering information

P/N	Description
02321150	Benchtop water distiller Model 9000
02321160	Benchtop water distiller Model 7000
02321170	Floor-standing water distiller Model 7000-8
02321180	Floor-standing water distiller Model 7000-12
023212040	Carbon filter cartridge, for Model 9000, change after every 6 months of use

➤ Clean & Simple Ultrasonic Baths



New Clean & Simple ultrasonic baths feature 60kHz of quiet cleaning power, which is less aggressive to instruments, yet strong enough to remove all surface contamination. Systems are available in 1- and 3-gallon sizes for standard glassware and instruments. A full selection of optional accessories are available to meet your specific needs. For added samples processing and cleaning power, choose an "H" model. Which features a built-in heating unit.

Fill your ultrasonic bath water and drop in two cleaning tablets. Watch them dissolve and clean in about a minute. The tablets create a non-ionic cleaning solution that is non-corrosive, nontoxic, non-caustic and biodegradable.

Ultrasonic bath features

- Built-in heater ("H" models) for added sample processing and cleaning power
- High efficiency 60 kHz of cavitation for thorough and quiet cleaning
- Durable vinyl-clad steel housing is easy to clean and resist scratching
- Stainless steel tank with cover included
- Full line of accessories available

Cleaning Tablet features

- Eliminates handling of heavy 1-gallon containers
- No bulky storage of premixing
- Enzymatic solution effectively breaks down protein

Technical Specifications

Model	CSU 1	CSU 1H	CSU 3	CSU 3H
Tank dimensions (W x H x D)	9.4 x 4 x 5.4 in 23.8 x 10.2 x 13.7 cm	9.4 x 4 x 5.4 in 23.8 x 10.2 x 13.7 cm	15.5 x 6 x 9 in 39.4 x 15.2 x 22.9 cm	15.5 x 6 x 9 in 39.4 x 15.2 x 22.9 cm
External dimensions (W x H x D)	12.6 x 8.8 x 9.9 in 32 x 22.2 x 25 cm	12.6 x 8.8 x 9.9 in 32 x 22.2 x 25 cm	19 x 13.5 x 16 in 49.3 x 34.3 x 40.6 cm	19 x 13.5 x 16 in 49.3 x 34.3 x 40.6 cm
Tank capacity	0.8 gal/ 3.4 L	0.8 gal/ 3.4 L	3.0 gal/ 12.7L	3.0 gal/ 12.7L

Ordering Information

P/N	Description
Ultrasonic baths	
023211055	Model CSU 1, includes bath lid/cover
023211075	Model CSU 1H, with built-in heater, includes bath lid/cover
023211065	Model CSU 3, includes bath lid/cover
023211085	Model CSU 3H, with built-in heater, includes bath lid/cover
Accessories	
023212010	CSU 1 spare parts kit, includes beaker holder, 2 glass beakers, bands and beaker lids
023212020	CSU 3 spare parts kit, includes beaker holder, 2 glass beakers, bands and beaker lids
023212050	CSU 1 sample basket
023212060	CSU 3 sample basket
023212040	Carbon filter cartridge, pkg. of 6
023212030	Clean & Simple ultrasonic cleansing tablets, box of 144 tablets



 **heidolph**
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