



**UNIVERSAL
LAB SOLUTIONS**
"The Complete Laboratory Solution"



**SPECIALIZING IN SALES
OF **LABORATORY**
EQUIPMENTS**

Digital Water Bath / Oil Bath



**UNIVERSAL
LAB SOLUTIONS**
The Complete Laboratory Solution

ULS Laboratory Oil Baths are ideal for all applications, reactions, extraction, analysis and tests.

A clear bottom a uniquely designed Bath. Ensures no heater burn out due to lack of water.

An absolute over temperature alarm with auto cut off.

Internal and external chamber full stainless steel construction.

And external Chamber Ms Powder coated.

Light weight, compact in size, minimum space occupation with less consumption of oil, PID based digital temperature indicator cum controller.



Technical Specification:

MODEL	ULS-CWO-1 S/G	ULS-CWO-3 S/G	ULS-CWO-5 S/G	ULS-CWO-10 S/G
Display	Digital Display			
Controller	PID Controller			
Construction	Double Walled			
Capacity	1 Liters	3 Liters	5 Liters	10 Liters
Chamber Dimensions(WxHxD)mm	Ø 165 x 90 mm	Ø 210 x 120 mm	Ø 260 x 150 mm	Ø 350 x 200 mm
Temperature range	RT +10°C to 275°C			
Temperature Accuracy	±0.2°C or better			
Temperature Sensor	PT-100			
Power	AC 230V / 50 Hz			
Optional MOC	GMP Model Inner Tank & Outer chamber SS 304/316 Stainless Steel leak free die press vessel			
Optional Accessories /Documentation	-SS Flask Stand Accessories -DQ, PQ, OQ & IQ documentations			

Water Bath



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Universal Water Bath system is suitable for general boiling applications in laboratories. The Water Baths provide the user with a constant temperature environment that only can be obtained when samples are totally immersed in water. These systems offer loads of features that facilitate easy operation and comfortable working in any laboratory stainless steel inner chamber is easy to clean and drain plug is fitted for quick water drainage. If your application needs stirring, a high speed stirrer can be fitted on request.



Technical Specification:

MODEL	UL - 05 SWB	UL - 14 SWB	UL - 28 SWB
Display	Digital Display		
Controller	PID Controller		
Construction	Double Walled		
Capacity	5 Liters	14 Liters	28 Liters
Chamber Dimensions(WxHxD)mm	Ø 300x150x150 mm	Ø 320x300x150 mm	Ø 500x300x200 mm
Temperature range	+ 5°C to 100°C		
Temperature Resolution	0.1°C		
Temperature Sensitivity	±0.2°C or better		
Temperature Accuracy	+/-0.1°C		
Optional MOC	GMP Model Inner Tank & Outer chamber SS 304/316 Stainless Steel leak free die press vessel		
Optional Accessories /Documentation	SS Flask Stand Accessories DQ, PQ, OQ & IQ documentations		
Temperature Sensor	PT-100		
Power	AC 230V / 50 Hz		

Vertical Autoclave



**UNIVERSAL
LAB SOLUTIONS**
The Complete Laboratory Solution

Sole Locking Device (SLD) very easy to Open and close for smart operations.

No fly nuts tightening.

MOC: Inner SS outer epoxy powder coated on SS 304.

Low Water Level Cut-off

Self-regulating safety for over temperature

Easy going drain from the chamber.

Lid Lock Safety – Prevents the operator from accidental door opening under pressurized chambers

Safety valves – chamber is equipped with

Safety valves for pressure over.

Advanced touch screen PLC control

Temperature Range: Upto 122°C in 0.1°C resolution With timer.

Energy efficient Industrial grad Heater.

Standard and customized both sizes available.



Technical Specification:

MODEL	#ULS-0421 SLDG	#ULS-0431 SLDG	#ULS-0440 SLDG	#ULS-0441 SLDG	#ULS-0451 SLDG
Display	Digital Display				
Controller	PID Controller				
Construction	Double Walled				
Capacity	35 Liters	53 Liters	75 Liters	115 Liters	180 Liters
Chamber Dimensions(WxHxD)mm	12x20" (30x50cm)	14x22" (35x55cm)	16x24" (40x60cm)	18x24" (45x60cm)	20x30" (51x76cm)
Temperature range	+ 5 to 90°C				
Temperature Accuracy	± 1°C				
Temperature Sensor	PT-100				
Power	AC 230V / 50 Hz				
Optional MOC	GMP Model Inner Tank & Outer chamber SS 304/316 Stainless Steel leak free die press vessel				
Optional Accessories /Documentation	-SS Flask Stand Accessories - DQ, PQ, OQ & IQ documentations				

Vacuum Series Vertical Autoclave



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LAB SOLUTIONS**
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Sole Locking Device (SLD) very easy to
Open and close for smart operations.
No fly nuts tightening.
MOC: Inner SS outer epoxy powder coated on SS 304.
Low Water Level Cut-off
Self-regulating safety for over temperature
Easy going drain from the chamber.
Lid Lock Safety – Prevents the operator
from accidental door opening under pressurized
chambers
Safety valves – chamber is equipped with
Safety valves for pressure over.
Advanced touch screen PLC control
Temperature Range: Upto 122°C in 0.1°C resolution
With timer.
Energy efficient Industrial grad Heater.
HMI - touch screen Display for accurate control.



Technical Specification:

MODEL	#ULS-0441 SVA G/S	#ULS-0451 SVA G/S
Display	Digital Display	
Controller	PID Controller	
Construction	Double Walled	
Capacity	115 Liters	180 Liters
Chamber Dimensions(WxHxD)mm	Ø 300x150x150 mm	Ø 320x300x150 mm
Temperature range	+ 5 to 90°C	
Temperature Accuracy	± 1°C	
Temperature Sensor	PT-100	
Power	AC 230V / 50 Hz	
Optional MOC	GMP Model Inner Tank & Outer chamber SS 304/316 Stainless Steel leak free die press vessel	
Optional Accessories /Documentation	-SS Flask Stand Accessories -DQ, PQ, OQ & IQ documentations	

Digital Steam Bath Pot



**UNIVERSAL
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ULS Laboratory Steam Baths are ideal for all applications, reactions, extraction, analysis and tests.

Water Level Indicating Device.

Safety thermostatic cut-off (self resetting type) for assured low water detection- with visual indication.

Fully stainless steel double walled construction with insulation of preventing energy losses.

Hinged Lid with assisted lift for easy opening as well as effortless loading & removal of flasks.

SS wire mesh heater cover for efficient steam movement and stable placement of media flasks.

Drain valve for draining chamber water.

Open port at top for venting of steam.

Validation port provided as part of standard supply.

User settable digital Temperature controller with Timer.

Special energy efficient tubular heaters.

Standard and customized both sizes available.



Technical Specification:

MODEL	ULS-SP-24	ULS-SP-84
Display	Digital Display	
Controller	Digital Temperature	
Construction	Double Walled	
Capacity	24 Liters	84 Liters
Chamber Dimensions(WxHxD)mm	400x300x200 mm	600x400x350 mm
Temperature range	+5 to 100oC.	
Temperature Accuracy	±1°C or better	
Temperature Sensor	PT-100	
Power	AC 230V / 50 Hz	
Optional MOC	GMP Model Inner Tank & Outer chamber SS 304/316 Stainless Steel leak free die press vessel	

Environment friendly CFC free hermetically sealed rotary compressor.

Material of Construction:

Fabrication with SS top & SS angle Structure. Panels is MS Powder Coated.

ULS Low Temperature coolant circulating pump

(Cool Chiller) specially design for Fermenter, Rotary Vacuum Evaporator .

Reputed make compressor

Provision for drain

Technical Specification:

Coolant Filling Port and Drain Port available.

Digital temperature controller

On/Off Switch of Ref System and alarm

Castor wheels for easy movement.

Standard and customized both sizes available.



Technical Specification:

MODEL	ULS-5N-G/S	ULS-7N-G/S	ULS-10N-G/S	ULS-15N-G/S	ULS-25N-G/S	ULS-60N-G/S
Display	Digital Display					
Controller	PID Controller					
Construction	Double Walled					
Capacity	5 Liters	7 Liters	10 Liters	15 Liters	25 Liters	60 Liters
Temperature range	0-2 °C to -10°C to RT					
Flow Rate	15 Liter/min					
Temperature Stability	±0.1°C					
Coolant Temperature	-10°C					
Temperature Sensor	PT-100					
Power	AC 220V / 50 Hz					
Optional MOC	GMP Model Inner Tank & Outer chamber SS 304/316 Stainless Steel leak free die press vessel					
Optional Accessories /Documentation	SS Flask Stand Accessories DQ, PQ, OQ & IQ documentations					

Muffle Furnace



**UNIVERSAL
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Furnace finds application in Industries & Laboratories for Ashing, Heat treatment, Ignition test, Gravimetric analysis, Determination of volatile and suspended solids & Cement testing.

Outer Casing Made from Stainless Steel – 304 grade in all GMP Models.

Un-exposed long lasting KANTHAL A-1 heating elements.

Light Weight, Ceramic Fiber Wool insulation of High quality to give maximum thermal efficiency.

Temperature controlled by Dual Display

Microprocessor based PID Temp. Controller.

Standard and customized both sizes available.



Technical Specification:

MODEL	ULSMFF-1 G	ULSMFF-2 G	ULSMFF-3 G	ULSMFF-4 G	ULSMFF-5 G
Display	Digital Display				
Controller	Digital Temperature				
Construction	Double Walled				
Capacity	2.3 Liters	4.25 Liters	6.75 Liters	12 Liters	23.8 Liters
Chamber Dimensions(WxHxD)mm	400x300x200 mm	600x400x350 mm			
Temperature range	400°C to 1150°C.				
Temperature Accuracy	± 3°C or Better.				
Temperature Sensor	"K" Type (Cr/Al)				
Power	AC 230V / 50 Hz				
Optional MOC	GMP Model Inner Tank & Outer chamber SS 304/316 Stainless Steel leak free die press vessel				
Optional Accessories /Documentation	SS Flask Stand Accessories DQ, PQ, OQ & IQ documentations				

Bod / Cooling Incubator



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Designed specially biological oxygen demand determination and other application like general incubation, serum studies and enzyme assays tests. Castor wheel mounted is double walled.

Inner Chamber made of SS with mirror /Mat outer finishing chamber is made of SS 304

Full length glass/acrylic door permits inspection of specimen without disturbing temp. temp controlled by microprocessor controller cum indicator.

The unit is fitted with door operated illumination lamp inside the chamber.

Equipped with hermitically sealed compressor CFC free.

Air circulation fan for maintaining temp uniformity throughout the chamber.

Flush fitting insulated double walled door has magnetic gasket.

The chamber is provided with modular removable shelves made of SS for complete flexibility in use.

Inner chamber is fitted with refrigeration evaporator, heater and air circulator for creating positive air flow through outer inner chamber for temp uniformity.

Standard and customized both sizes available.



Technical Specification:

MODEL	ULSBOD-40 G/S	ULSBOD-90 G/S	ULSBOD-120 G/S	ULSBOD-175 G/S	ULSBOD-280 G/S	ULSBOD-325 G/S	ULSBOD-400 G/S	ULSBOD-450 G/S
Display	Digital Display							
Controller	PID Controller							
Construction	Double Walled							
Capacity	40 Liters	90 Liters	120 Liters	175 Liters	280 Liters	325 Liters	400 Liters	450 Liters
Chamber Dimensions (WxHxD)mm	35x35x35	45x45x50	40x40x60	50x50x70	55x55x90	60x60x90	65x65x90	70x70x90
Number of Shelves	2 NOS.			3 NOS.			3 NOS.	
Chamber Size Cu.Ft	1.5	3	4	6	10	12	14	16
Temperature range	5 to 60°C							
Temperature Accuracy	+/- 0.5° C							
Temperature Sensor	PT-100							
Power	AC 230V / 50 Hz							
Inner Chamber Material	Stainless Steel (SS 304)							
Optional Accessories /Documentation	-SS Flask Stand Accessories -DQ, PQ, OQ & IQ documentations							
Outer Body Material:	Heavy duty Powder coated MS /SS304 Complete SS Body							

Hot Air Oven



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Laboratory Oven is an advanced and an ideal for the experiments of the heating in Laboratory.

It is full feature performance for general purpose lab ovens with feature a fast drying with vertical air flow. It is widely applicable for research and production in Chemical, Pharmaceutical, Agriculture, microbiology, universities and many more industries.

Technical Features:

Triple walled in construction with Inner made of Stainless Steel – 304 Grade & Exterior of CRCA steel with powder coat finish.

Interior made of Stainless Steel – 316 grade and Exterior of Stainless Steel - 304 grade matt finish in all GMP MODELS.

Food grade Silicon Rubber gasket which acts as a perfect sealant.

Temperature controlled by Dual Display Microprocessor based PID Temperature Controller & PT – 100 sensor.

Heating elements are made of high grade Nichrome wire and provided on the side walls of the chamber.



Technical Specification:

MODEL	ULS-45- OD S/G	ULS-95- OD S/G	ULS-105- OD S/G	ULS-125- OD S/G	ULS-215- OD S/G	ULS-224- OD S/G	ULS-250- OD S/G	ULS-325- OD S/G
Chamber Volume (Litre)	45 Liters	95 Liters	105 Liters	125 Liters	215 Liters	224 Liters	250 Liters	325 Liters
Temperature Range (°C)	RT+5°C ~ 250°C							
Temperature Accuracy	± 1°C OR Better							
Number of Shelves	2 pcs each	2 pcs each	3 pcs each	3 pcs each	3 pcs each	3 pcs each	3 pcs each	3 pcs each
Chamber Dimension (WxDxH)inch	14"x14"x 14	18"x18"x 18	18"x18" x24	18x18x24	24"x24"x 24	24"x24"x 24	24"x24"x 36	24"x24"x 36
Display	Dual Display Microprocessor based PID Temperature Controller							
Outer Body Material	Heavy duty Powder coated MS (SS304 Grade GMP Model Optional)							
Inner Chamber Material	Stainless Steel (SS304 Grade)							
Power (Watts)	1500W	2000W	2500W	2500W	3000W	3000W	3000W	3500W
Electrical Requirements	AC 230V ,50HZ/60Hz							
Chamber Dimension (WxDxH)inch	35X35X 35	45X45X 45	45X45X 60	45X45X 60	60X60X 60	60X60X 60	60X45X 90	60X45X 90

Biological Safety Cabinet



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Bio-Safety Cabinet Class II

Class II Bio-safety Cabinets are designed to provide protection to operator, environment and materials inside the workspace. These Bio-safety Cabinets are utilized for containing low-to- moderate risk bio-hazardous materials.

These Bio-safety Cabinets have downward airflow and HEPA filters that re-circulate air providing required level of protection from micro-organisms and aerosols. As these Bio-safety Cabinets are extensively used in drug preparation, chemotherapy preparation, clinical research, medical and pharmaceutical sectors, life science and industrial laboratories etc. it must follow relevant application specific standards..

Different Names Same Purpose

A Bio-Safety Cabinet is called by several names in research industry; microbiological safety cabinet, Biological Safety Cabinet (Acronym: BSC) and Bio-Safety hood are such common names which are referred by microbiologists.

Types of Class 2 Bio-Safety Cabinet:

In order to meet varying research and clinical needs, Bio-Safety Cabinets are designed mostly in 3 types i.e. Type A2, Type B1, and Type B2. Regardless of type, each cabinet provides the same level of protection.

According to international sanitation standards, there are exactly same pass and fail criteria for all of them.

Now how do we differentiate each Class 2 Bio-Safety Cabinet? Each Bio-Safety Cabinet is differentiated by a number of factors some of them are amount of air re-circulation, air ventilation and negative and positive pressure. Before buying a cabinet a user must know the basic differences between these 3 types of Bio-Safety cabinets which are explains below:

Bio-Safety Cabinet Class II Type A2:

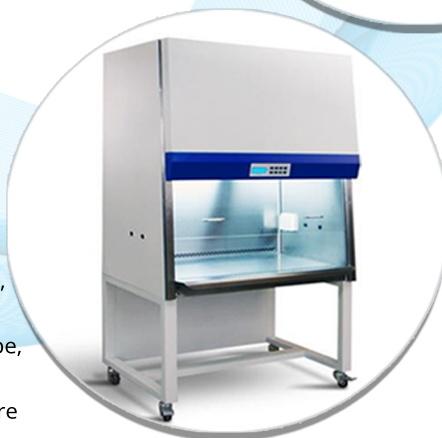
In this type of Class II BSC, approximately 70% of the HEPA filtered air is circulated through the cabinet, while 30% passes through an exhaust HEPA filter and is discharged.

Bio-Safety Cabinet Class II Type B1:

This Class II BSC, exhausts 60% - 70% of the HEPA filtered air, while 30% - 40% air is re-circulated inside workspace through HEPA filter.

Bio-Safety Cabinet Class II Type B2:

It is total exhaust type BSC, no re-circulation inside workspace; blower exhausts 100% of the filtered air.



Biological Safety Cabinet



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Bio-Safety Cabinet Class II

Technical Parameters:

MODEL NO	ULSB2-BSC2 G/S	ULSB2-BSC3 G/S	ULSB2-BSC4 G/S	ULSB2-BSC5 G/S	ULSB2-BSC6 G/S
Airflow Direction	2' x 2' x 2'	3' x 2' x 2'	4' x 2' x 2'	5' x 2' x 2'	6' x 2' x 2'
Working Side	2' x 3' x 7'	3' x 3' x 7'	4' x 3' x 7'	5' x 3' x 7'	6' x 3' x 7'
Inflow Velocity	105 fpm (0.53 m/s)				
Down flow Velocity	60 fpm (0.30 m/s)				
Operate environment	Environment temp.10-30°C,Relative Humidity under 70% no obvious vibration and dust				
Noise Level	<65dBA				
Filter	HEPA filter 99.999% efficient (ULPA - Optional)				
Particle retention	≤ 0.3 microns				
Light	Fluorescent light				
Light Intensity (LX)	≥650 Lux				
Controller	Microprocessor controller w/ LCD digital display				
Body Construction	Powder Coated MS / SS304 / SS316				
Table Construction	Stainless Steel 304				
Front Door	Frameless auto sliding glass door				
Pressure Gauge	Magnehelic gauge				
Alarm	Audio / visual sash alarm				
Blower assembly	1/3 HP, Single Phase, 1440 RPM motor, Capacity 1000 CFM, Pressure 30 mm WG				
Exhaust assembly	300 CFM, ducting by PVC pipe with rain guard - Dia. 150mm				
Clean Rating	International standard ISO14644.1 CLASS 5(US209E,CLASS 100)				
Certifications	NSF/ANSI 49 (Optional)				
Pressure Difference Range (Pa)	Environment temp.10-30°C,Relative Humidity under 70% no obvious vibration and dust				
Power Supply	Single-phase voltage source AC220±10V, 50/60Hz				
Optional Accessories	ULPA Filter Caster wheels Temperature indicator Face Velocity Meter Airflow Indicator Audio / Visual alarm Thermal Anemometer Raised airflow grill Spare UV lamp Vacuum Tap Exhaust (LH / RH / Top)				

Stainless Steel Casters



Telescoping Base Stand



Magnehelic Gauge



Thermal Anemometer



UV Lamp



Laminar Air Flow (Horizontal type Air Flow Bench)



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ULS Laminar Air Flow / clean bench is a necessary basic equipment for biologic technical researches and experiments. It is widely applicable in the field of pharmaceuticals, biochemistry, environmental monitoring and electronic instruments for purifying air in the operation area.

Product Characteristics:

The shell is made of quality cold-rolling Mild steel (MS) /SS with static spray plastics, the operation table is made of SS304 which is corrosion-resistant and easy to clean;

Centrifugal fan which has steady rotate speed and low noise;
LCD control system (optional), touch type switch, six steps of wind speed control.

Be equipped with UV light and lamp control, timer range of sterilization is 0-999min.

Open-type front window can prevent the air outside from permeating and keep the operation area clean.

Both sides are organic Acrylic glass which is transparent and durable;

Be equipped with HEPA, the pre-filter is set as the medium efficiency filter system to extend HEPA's life.



Technical Parameters:

MODEL	ULSHLF-2 G/S	ULSHLF-3 G/S	ULSHLF-4 G/S
Airflow Direction	Horizontal Airflow		
Working Side	One side		
Cleanliness Class	Class 100 (99.99%@ $\geq 0.3\mu\text{m}$)		
Wind Speed	0.3-0.6m/s (Adjustable)		
Noise	$\leq 62\text{dB}$		
Vibration Half Peak Value	$\leq 3\mu\text{m}$ (X、Y、Z direction)		
Lamp	Fluorescence / LED		
Illuminance	$\geq 800\text{LX}$		
Working Zone ("Ft")	2' \times 2' \times 2'	3' \times 2' \times 2'	4' \times 2' \times 2'
Size of HEPA filter	2' \times 2' \times 3" \times ①	3' \times 2' \times 3" \times ①	4' \times 2' \times 3" \times ①
Lamp/UV Light Power	15W \times ①/15W \times ①	20W \times ①/20W \times ①	20W \times ①/20W \times ①
Weight (Kg)	110 kg	125 kg	150 kg
Power Supply	AC220 \pm 10V, 50/60Hz		

Laminar Air Flow (Vertical type Air Flow Bench)



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ULS Laminar Air Flow / clean bench is a necessary basic equipment for biologic technical researches and experiments. It is widely applicable in the field of pharmaceuticals, biochemistry, environmental monitoring and electronic instruments for purifying air in the operation area.



Laminar Air Flow Cabinets by Universal Lab Solution are a series of high efficiency clean room work benches designed to protect equipment and other contents of the work zone from particulates. These LAF cabinets are available in 5 standard sizes that can be further customized to meet unique requirements of our customers. These cabinets are well suited for cell culture and microbiological applications that require class 100 air quality.

Vertical Vs Horizontal Laminar Flow

In a horizontal air flow cabinet, filtered air blows across the work zone in horizontal direction; this constant flow of air provides material and product protection. Whereas, in a vertical laminar air flow cabinet, filtered air blows on the work zone and leaves through the holes in the base. As compared to horizontal type, vertical flow cabinet can provide greater operator protection. Furthermore, it is user preference that decides which type of laminar air flow cabinet should use.

Product Characteristics:

The shell is made of quality cold-rolling Mild steel (MS) /SS with static spray plastics.

The operation table is made of SS304 (optional SS316) which is corrosion-resistant and easy to clean.

Centrifugal fan which has steady rotate speed and low noise.

LCD control system (optional), touch type switch, six steps of wind speed control.

Be equipped with UV light and lamp control, timer range of sterilization is 0-999min.

Open-type front window can prevent the air outside from permeating and keep the operation area clean.

Both sides are organic Acrylic glass which is transparent and durable.

Be equipped with HEPA, the pre-filter is set as the medium efficiency filter system to extend HEPA's life.

Laminar Air Flow (Vertical type Air Flow Bench)



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Technical Parameters:

MODEL NO	ULSVLF- 2 G/S	ULSVLF- 3 G/S	ULSVLF- 4 G/S
Airflow Direction	Vertical Airflow		
Working Side	One side		
Cleanliness Class	Class 100		
HEPA Filter	99.999% @ efficiency for particles $\geq 0.3\mu\text{m}$		
Cabinet	Laminated High Quality PCRC/MS Sheet Powder Coated/ Stainless Steel SS 304 (optional 316 grade)		
Pre-Filter	85 %efficiency for particles $> 0.5\mu\text{m}$ (Washable)		
Particle Count	Better than US Fed Std 209B Class10 and VDI 2083 Class 3		
Work Table	SS 304 Stainless Steel (optional SS 316 grade)		
Wind Speed	0.3-0.6m/s (Adjustable)		
Airflow Speed	Control Speed Controller (Three Step Speed Controller)		
Blower	High efficient centrifugal type with lifetime lubricated bearings		
Noise	$\leq 62\text{dB}$		
Vibration Half Peak Value	$\leq 3\mu\text{m}$ (X, Y, Z direction)		
Lamp	Fluorescence / LED		
Illuminance	$\geq 800\text{LX}$		
Working Zone ("Ft")	2' \times 2' \times 2'	3' \times 2' \times 2'	4' \times 2' \times 2'
Size of HEPA filter	2' \times 2' \times 6" \times ①	3' \times 2' \times 6" \times ①	4' \times 2' \times 6" \times ①
Lamp/UV Light Power	15W \times ①/15W \times ①	20W \times ①/20W \times ①	20W \times ①/20W \times ①
Weight (Kg)	110 kg	125 kg	150 kg
Power Supply	AC220 \pm 10V, 50/60Hz		
Standard Accessories	Air/gas cock and mains power socket (16A)		
Optional Accessories	Microprocessor LCD Controller Digital display for Air Flow Rate Transparent Front Door Gauges Pressure (Statics Pressure Mano-Mater) Magnahelic Gauge (for filter pressure) U. V. Germicidal Tube in work area Electronic Filter choke alarm Spare HEPA Filters Auto switch on/off for U.V. Germicidal tube & fluorescent light Hour Meter for UV light		

Stainless Steel Casters



Telescoping Base Stand



Magnehelic Gauge



Thermal Anemometer



UV Lamp



Horizontal Autoclave



**UNIVERSAL
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AUTOClaves FOR STERILE PRODUCT

Customized option for steam sterilizer

Single door / double door

Shelve mounted /

Carriage & trolley design

Inbuilt control panel /

Separate control panel

Inbuilt steam generator /

Pure steam operated

Semi automatic / fully automatic

Option for 21 CFR part 11 complaint system design.

DESIGN SPECIFICATION FOR STERILIZER



Technical Specification :

DESCRIPTION	DETAILS
Working Volume	180 Ltr. To 10000 Ltr.
Vacuum pump system	water ring type with inbuilt condenser.
Steam Generator	SS316L with inbuilt heaters, level switch, safety valve and dosing pump.
Chamber	SS316L Rectangular, smooth edges self draining type.
Jacket	SS304 / SS316 Full type / U type with temperature & pressure monitoring system.
Doors	SS 316 L contact parts. Vertical / Horizontal type. Auto sliding / Hinged door. Door inter locking system.
Surface Finish	Internal Mirror finished with Electro-polished 0.2 μm to 0.6 μm / Matt finished with 0.8 μm to 1 μm
Piping and valve package	Contact parts SS316L / Non-contact parts SS304. Orbital / Argon welding. Pneumatically / Diaphragm actuated valve.
PLC / HMI	Fully Automatic operation of autoclave with 10 nos. recipe, inbuilt R232 port, 3 level password protection. Option for 21 CFR compliance software provided. Optional for manual operation can be provided. UPS system.