STEAM STERILIZER
TECHNICAL DATASHEET

SEBA's Steam Sterilizer Models are designed and manufactured for fast and efficient sterilization of heat & moisture resistant materials; as textile material, surgical instruments, dressing tools, rubber materials and liquids in a glass container with pre-vacuum configuration.
SEBA's Steam Sterilizer Models are horizontal loading system which aim to provide the best service in healthcare institutions with its both single-door and double-door automatic pneumatic door system options which open to sterile /non-sterile area.

				CHAMBER			*DEVICE DIMENSION*			*STEAM GENERATOR*	
	MODELS	LITER	STU	WIDTH	HEIGHT	DEEP	WIDTH	HEIGHT	DEEP	LITER	POWER KW
SMB-DSD DOUBLE DOORS	SMB-DSD-160	**160**	1	400	400	1000	870	1650	1350	50	20
	SMB-DSD-200	**200**	1.5	500	500	800	970	1750	1150	50	30
	SMB-DSD-250	**250**	1.5	500	500	1000	970	1750	1350	50	30
	SMB-DSD-300A	**300**	2	500	500	1200	970	1750	1550	50	30
	SMB-DSD-300	**360**	4	670	670	800	1140	1900	1050	50	30
	SMB-DSD-450	**450**	6	670	670	1000	1140	1900	1400	50	40
	SMB-DSD-540	**560**	8	670	670	1250	1140	1900	1600	79	40
	SMB-DSD-675	**695**	10	670	670	1550	1140	1900	1900	79	50
	SMB-DSD-810	**830**	12	670	670	1850	1140	1900	2200	89	50
	SMB-DSD-945	**965**	14	670	670	2150	1140	1900	2500	89	60
SMB-SSD SINGLE DOOR	SMB-VD-75	**100**	1	400	400	625	870	1650	950	50	20
	SMB-SSD-160	**160**	1	400	400	1000	870	1650	1350	50	20
	SMB-SSD-200	**200**	1.5	500	500	800	970	1750	1150	50	30
	SMB-SSD-250	**250**	1.5	500	500	1000	970	1750	1350	50	30
	SMB-SSD-300A	**300**	2	500	500	1200	970	1750	1550	50	30
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Device

Control System	PLC (Programmable Logic Controller)
Operation Mode	Fully Automatic / Button Command
Display Type	Color TFT, LCD Touch Screen
Display Sizes Available	7,0"
Key Pad	Touchscreen
Printer	40 Character/line, Integrated Thermal Printer
Communication	RS232 Port
Warning System	Visual & Audio & Printed Alarms
Data Storage	1000 cycles
Monitoring	Addition to Touchscreen, analogue gauges for chamber, jacket, generator and air pressure
Mobility	Easy positioning on 4 castors (2 x swivel) and firm fixing on suspension legs
Steam Control	Through pneumatic and electric valves

Standard Programs

Medical & Surgical Instruments (134°C)	~ 60 min
Textile Materials (134°C)	~ 60 min
Rubber Articles (121°C)	~ 80 min
Liquids in Glass Container (121°C)	~ 60 min
Silicone Implants (134°C)	~ 80 min
Flash (134°C)	~ 20 min
Prion (134°C)	~ 90 min
Bowie & Dick Test (134°C)	~ 45 min
Vacuum Leak Test	~ 25 min
Customized Program Capacity	20

Safety & Quality Features

- √ Protects operator from electrical current leaks.
- √ Short circuit protection.
- √ Safety valve.
- √ HEPA filter for air filtration.
- √ Water level control with electrodes in generator.
- √ Water level buoy (at water tank).
- √ Steam traps for precise exhausting.
- √ Leak test.
- √ Password protection.
- √ Sensors against obstructions on the doors pathway.
- √ Doors locks under pressure.
- √ Unable to open both doors at once in Septic-Aseptic models.
- √ Emergency stop button.

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Process times are load-dependent and approximate. They refer to full process including drying with an average load.

Medical Device Directive	: 93/42/EEC as amended by directive 2007/47/EC
Device Classification	: Class IIb, acc. To EC MDD 93/42/EEC 2007/47/EC (Annex II)
Low Voltage Directive	: 2006/95/EC - EN 60601-2-040
EMC Directive	: 2004/108/EC EN 60601-1-2
Pressure Equipment Directive	: 2014/68/EU : EN 13445-1, -2, -3, -4, -5 (Pressure Vessels)
Sterilization – Steam sterilizers – Large sterilizers	: EN285:2016
Quality Management System Requirements	: EN - ISO 9001:2015
Medical Devices – Quality management systems – Requirements for regulatory purposes	: ISO 13485:2016
Environmental Management Systems – Requirements with guidance for use	: ISO 14001:2015

"Type" tests of SEBA steam sterilizers are performed and certified according to the directives of EN 285 and TS EN 17665-1-2 by The German accreditation company HYGCEN GmbH.

Temperature

Range	105°C - 141°C (chamber) (Despite to it, Non-Heating Outer Surface)
Measurement	Normal 1 x PT 100 Sensor (Optional plus 2)
Location	Chamber (1), Optional (1 for chamber and 1 for liquid (Validation)),

Pressure

Measurement	Pressure Transducer (3)
Location	Chamber (1), Jacket (1), Generator (1)

Vacuum

Source	Pump, liquid ring (2.2KW)
Capacity	60 mbar
Pre-Vacuum	Yes

Construction

Body	Electrostatic Powdered Profile Steel, AISI 304-316 L/Ti S.S.
Chamber	Rectangular, 6 mm, AISI 316 L/Ti Stainless Steel
Jacket	3 mm, AISI 316 L/Ti Stainless Steel, Full Cover
Door	10 mm, AISI 304-316 L/Ti Stainless Steel
Panels Surrounding	AISI 304-316 L/Ti Stainless Steel
Piping	AISI 304-316 L/Ti Stainless Steel
Chamber Polishing	Mechanical/Electro Polishing, Optional

Installation Requirement

Power	3 Phase / 400 VAC ±10
Water	RO treated deionized water for high performance

Feeding Water Requirements

Residue on evaporation	≤ 10 mg/L
Silicate (SiO_2)	≤ 1 mg/L
Iron	≤ 0,2 mg/L
Cadmium	≤ 0,005 mg/L
Lead	≤ 0,05 mg/L
Heavy metals other than iron, cadmium, ie	≤ 0,1mg/L
Chloride (Cl)	≤ 2 mg/L
Phosphate (P_2O_5)	≤ 0,5 mg/L
Conductivity (at 25°C)	≤ 5 µS/cm
pH Value (degree of acidity)	5 to 7,5
Appearance	Free of sediment, clear, colorless
Asperity (Σ Earth Alkali Ions)	≤ 0,02 mMol/L

*Water quality should be checked by standard analytical test methods by the institution which utilizes the sterilizer.

Installation Conditions

At least 60 cm. space is needed on both lateral sides of the device to provide an effective technical service. Exhaust fan or ventilation funnel needs to be placed above the device for an effective evacuation of heat.

Optional Accessories

Inner Trolley (AISI 304 L/Ti Stainless Steel)
Transport (Loading/Unloading) Trolley (Optional Height Adjusting, AISI 304 L/Ti Stainless S.)
STU Basket (AISI 304 L/Ti Stainless Steel)

Drainage

Water	Inclined metal pipe to be installed onsite at least 2 meters of length (diameter: 1")
Steam (Condensed)	Steam Trap (built-in)
Air	Vacuum Motor (built-in)

Chamber

Test Pressure	7 Bar/Abs
Test Temperature	148 °C
Working Temperature	134 °C
Working Pressure	3,2 Bar/Abs

Steam Generator

Capacity	50 L-89 L (Depends on the Model)
Water Level Protection	CRES* / AISI 304 steel box
Power	3 Phase, 400 ±10 VAC, 20-60 kW (Depends on the Model)
Test Pressure	7 Bar/Abs
Test Temperature	159 °C
Working Temperature	145 °C
Working Pressure	4,2 Bar/Abs

* CRES : Corrosion Resistant Stainless Steel

Consumption

Electricity	Average 10 kW/ Per Cycle
Water (Approximate)	Average ~80 Lt/ Per Cycle

Steam

Type	97% Saturated Steam at 4.2 Bar Abs. Pressure
Source	Built in Steam Generator or Central Steam System
Side of Applied Steam	Lateral

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