Large steam sterilizer

Devoted to infection control

Zhangjiagang Medpharm Machinery Ltd.

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Brief introduction

Medpharm supplies sterilizers application in hospital, pharmaceutical factory, life science, clinic, biotechnology, laboratory and animal care center.

MD series sterilizers are designed for infection control, which use steam as sterilization medium for fast, efficient sterilization with heat and moisture for medical clothing, rubbers, instruments,glass vessels,fabric, or unsealed liquid and culture medium.

Besides equipped with clothing, instrument, liquid, leak test and Bowie-Dick test cycles are preset , another 12 customized cycles can be set or reset, total 17 sterilization cycles are stored in PLC system for different requirements.

Safety

Operator and equipment safety with alarm system

Pressure overload relief system

Electric current overload protection system

Accurate temperature and pressure control and alarm system

Door safety interlock system

Door safety

Electric door switch ensures the door is fully closed and locked prior to the cycle start.

Cycles can't start until the door(s) are fully closed and sealed.

The door can't be open during cycles or pressure in the chamber exceeds safety value (safety pressure <15Kpa).

Both doors can not be open simultaneously to avoid cross-contamination between loading and unloading areas.

The door gasket is silicon seal ring which is strong pressed against the rear face of the door by compressed air from the beginning to the end of the cycle process.The gasket is retraced by vacuum and then the door can be opened by motor.

Chamber

The sterilizer chamber is made according to latest pressure vessel standards GB150-2011 and GB8599-2008.

Chamber is made of solid stainless steel. Internal surfaces are fine polished to facilitate cleaning.

Chamber is completely insulated with 30-80mm mineral wool and mounted on strong steel framework with adjustable feet.

The vessel provided validation connections for temperature test sensors on the left side.

CONTROL SYSTEM

Integrated PLC system with operator friendly color touch screen display

Selected accurate temperature and pressure sensors ensure effective control and sterilization

Three levels of user log-in security

F0 sterilization result output

Audible and visual alarm at site, faults message on screen

Available with network (optional)or USB data download ports

Multiple cycles for user selection and resetting.

Micro printer and paperless recorder (optional) for cycle data store

Flexible temperature sensor for liquid sterilization cycle
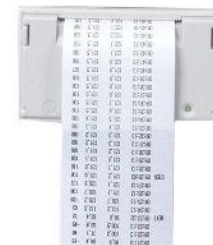
Sterilization Cycles

Customized cycle name for easy recognition and 12 stored programmable customized cycles for resetting

Cycle Name	Program preset details	Sterile products for reference
Instruments/ Tools	3 times Vacuum, expose temperature 132℃, expose time 8 min, drying time 15 min.	Instruments with narrow tube, Filters, Biology glassware, dental instruments, disassembled filter housings, animal cages
Clothing	3 times Vacuum, expose temperature 121℃, expose time 30 min, drying time 25 min.	Lab coats, hospital bedding, gauze, operation package etc.
Liquid	3 times exchange, expose temperature 121℃, expose time 30 min, cooling time 25 min.	Culture medium, nutrient solution and other liquids in unsealed containers
B-D Test	3 times Vacuum, expose temperature 134℃, expose time 4 min, drying time 3 min.	B-D package
Leak Test	Test the chamber connecting parts' tightness effect. It's important to ensure the sterilization effect.	Test air leak. Start before sterilization cycle.
User Programs	All preset parameters can be reset; Multiple customized programs can be set and stored by user.	Defined by customer special requests besides the preset programs.

Sterilization Report

Ink stylus printer integrated into main control panel outputs sterilization report.

Messages: Operator identification code, cycle type, cycle stage, time, chamber

pressure and temperature, F0, alarms or

messages and cycle completion status.

Printer

Alarm

Standard safety alarms: Chamber high pressure, low water level in generator or high pressure, PT100 sensor

error and pump operation error etc. are included with emergency stop buttons on the control panel.

Piping

Piping, fittings and valves are stainless steel with tri-clamp connections.
Safety relief valve and drains are easily connected to the plumbing.
Built in steam generator (Chamber volume<800 Liters) or external steam supply are for selection.
Water ring vacuum pump reduces water consumption.
Air filter with accuracy 0.22um ensures the sterile air into chamber.

Air filter

Flexible loading system

Plate or tray loading system for small chamber (Volume < 600 liters)
Transfer trolley with loading cart for large chamber (Volume >= 800 liters)
Loading baskets are optional
Transfer trolley with loading plates or trays are optional

Technical parameter

General Technical Parameters

Sterilization Technical Parameters	Data
Design pressure	0.25Mpa
Design temperature	139℃
Max working pressure	0.22Mpa
Max working temperature	134℃
Vacuum degree	≤-0.086Mpa
Chamber temperature difference	≤±1℃

General Facilities Requirement

Facilities Names	Value & Requirements
Steam	0.4---0.7Mpa, Saturated steam
Electric power	AC380V, 50Hz, 3Phase/N/E. Other standards are optional
Water	0.1---0.3MPa, Hardness<50ppm, pH Neutral
Compressed air	0.5---0.7MPa, 10 liters/min, Oil free, clean

Sterilizer selection

Order Code to help you select suitable sterilizers easily

MD-xx (V/Y/H) (S/D) (A/B)

A External Steam; B: Built-in Steam generator

S: Single door; D:Double door

V: Vertical sliding door, Suggest volume 120---600 liters

Y: Horizontal sliding door, Suggest volume 800---8000 liters

H: Hinge door, Suggest volume 240---5000 liters

xx: Chamber volume, xx M3

MD: Pre-vacuum steam sterilizer, model name

MD-V Series Vertical Sliding Door(S) Sterilizers

Features

Volume from 120 --- 600 liters

Compact installation style with high loading capacity

Fully automatic and safe by one button to open and close door

Built-in integrated electric heating steam generator

Loading plates for instruments in chamber, baskets or loading cart are optional

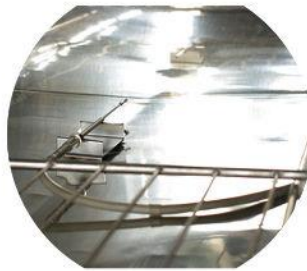Suggestion: For high ceiling floor with narrow space

Table 1

Volume	Chamber Size	Overall Size	Weight	Power	Order Code
Liters	W*H*D mm	W*H*D mm	Kg	KVA	
120	400*400*750	1200*1800*1090	500	2	MD-0.12VSA
			590	2	MD-0.12VDA
			530	11	MD-0.12VSB
			620	11	MD-0.12VDB
208	400*400*1300	1200*1800*1640	560	2	MD-0.20VSA
			650	2	MD-0.20VDA
			600	14	MD-0.20VSB
			690	14	MD-0.20VDB
241	600*600*670	1350*2000*1010	600	2	MD-0.24VSA
			700	2	MD-0.24VDA
			650	14	MD-0.24VSB
			750	14	MD-0.24VDB
360	600*600*1000	1350*2000*1340	700	3	MD-0.36VSA
			800	3	MD-0.36VDA
			750	21	MD-0.36VSB
			850	21	MD-0.36VDB
450	600*600*1250	1350*2000*1590	770	3	MD-0.45VSA
			870	3	MD-0.45VDA
			820	27	MD-0.45VSB
			920	27	MD-0.45VDB
601	600*600*1670	1350*2000*2010	1100	3	MD-0.60VSA
			1200	3	MD-0.60VDA
			1150	27	MD-0.60VSB
			1250	27	MD-0.60VDB

MD-H Series Motorized Hinge Door(s) Sterilizers

Features

Volume from 240 --- 2000 Liters

For small chamber sterilizers(volume less than 800 liters), built-in Steam generator and loading plates.

Other volumes are equipped loading cart and transfer trolley, please refer to table 2.

Easy door open by motor and convenient door maintenance

Door open swing from left to right or from right to left are optional according to installation space.
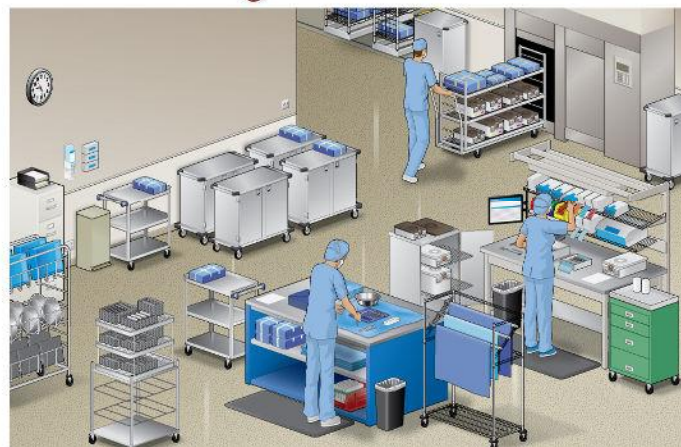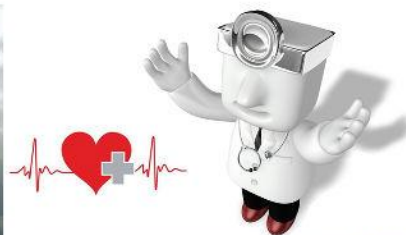
Suggestion: For low ceiling with enough space before sterilizer front control panel.

Table 2

Volume	Chamber Size	Overall Size	Weight	Power	Order Code
Liters	W*H*D mm	W*H*D mm	Kg	KVA	
241	600*600*670	1350*1800*1010	600	2	MD-0.24HSA
			700	2	MD-0.24HDA
			650	14	MD-0.24HSB
			750	14	MD-0.24HDB
360	600*600*1000	1350*1800*1340	700	3	MD-0.36HSA
			800	3	MD-0.36HDA
			750	21	MD-0.36HSB
			850	21	MD-0.36HDB
649	610*910*1170	1350*1900*1510	1100	3	MD-0.6HSA
			1250	3	MD-0.6HDA
			1160	27	MD-0.6HSB
			1310	27	MD-0.6HDB
805	610*910*1450	1350*1900*1790	1250	3	MD-0.8HSA
			1400	3	MD-0.8HDA
			1310	39	MD-0.8HSB
			1460	39	MD-0.8HDB
1003	680*1180*1250	1450*2000*1590	1400	4	MD-1.0HSA
			1550	4	MD-1.0HDA
1203	680*1180*1500	1450*2000*1840	1700	4	MD-1.2HSA
			1950	4	MD-1.2HDA
1500	680*1180*1870	1450*2000*2210	1900	4.5	MD-1.5HSA
			2150	4.5	MD-1.5HDA
2040	1000*1200*1700	1800*2000*2040	2400	4.5	MD-2.0HSA
			2700	4.5	MD-2.0HDA

MD-Y Series Horizontal Sliding Door(s) Sterilizers

Features

Volume from 800 --- 8000 Liters

Built-in steam generator or external steam, please refer to table 3

Loading cart with transfer trolley is standard equipment

Fully automatic by one button to reduce the scald risk when operator touching the door surface

Door open sliding from left to right or from right to left are optional according to installation space.

Pipping system maintenance at one side.

Suggest: For low ceiling with less space before sterilizer front control panel but have enough space in left or right.

Table 3

Volume	Chamber Size	Overall Size	Weight	Power	Order Code
Liters	W*H*D mm	W*H*D mm	Kg	KVA	
802	680*1180*1000	2200*2000*1410	1350	3	MD-0.8YSA
			1600	3	MD-0.8YDA
			1430	39	MD-0.8YSB
			1680	39	MD-0.8YDB
1003	680*1180*1250	2200*2000*1660	1500	4	MD-1.0YSA
			1750	4	MD-1.0YDA
			1600	58	MD-1.0YSB
			1850	58	MD-1.0YDB
1203	680*1180*1500	2200*2000*1910	1800	4	MD-1.2YSA
			2150	4	MD-1.2YDA
			1900	58	MD-1.2YSB
			2250	58	MD-1.2YDB
1500	680*1180*1870	2200*2000*2280	2000	4.5	MD-1.5YSA
			2350	4.5	MD-1.5YDA
2040	1000*1200*1700	2800*2000*2110	2520	4.5	MD-2.0YSA
			2640	4.5	MD-2.0YDA
3000	1000*1500*2000	2800*2200*2410	3100	5	MD-3.0YSA
			3250	5	MD-3.0YDA
5010	1000*1500*3340	2800*2200*3750	5050	8	MD-5.0YSA
			5200	8	MD-5.0YDA
8010	1000*1500*5340	2800*2200*5750	7000	12	MD-8.0YSA
			7150	12	MD-8.0YDA

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