



# STEAM STERILIZERS

## SST2200B - SST1700B

Safe Sterilization for GP's,  
dental and medical clinics



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Technology and design made in Italy



# CBM

## History

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# CBM

## 1943

CBM has been founded in **1943** by Cav. Busatti in Milan. Since the beginning, the company specialized in medical devices.



CBM  
1962

In the 1962 it has been moved to Torre de' Picenardi.  
CBM is focused in the sterilization field, manufacturing  
high quality and trustable medical devices.





# CBM

## 2017

Nowaday CBM develops over an area of 30.000 m<sup>2</sup>.  
CBM manufacturing capabilities allow the quick and precise managment of **more that 4000 articles.**





Sterilization  
Containers

Perforated  
Baskets

Hospital  
furniture

Steam  
Sterilizers

Hollowares

Hot air  
sterilizers

Bed pan  
washers

Lab  
equipments

# CBM

## Products

During such long story, CBM technical department developed a very wide range of products for many different applications..

Company management has created important business opportunities in many different countries all around the world.

CBM

Products

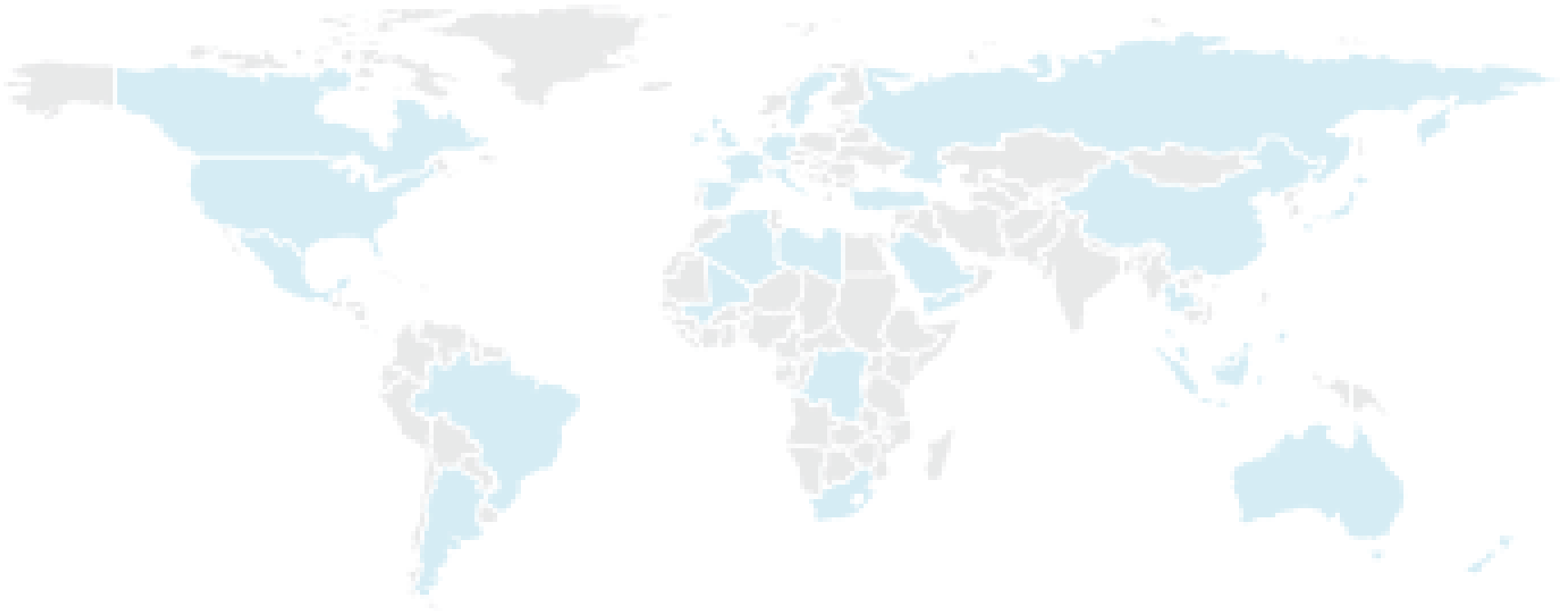




# CBM

## In the World

CBM delivers its products and services in **more than 100 countries** .



Mercati CBM





# CBM

## CBM delivers its products and services in **more than 100 countries**

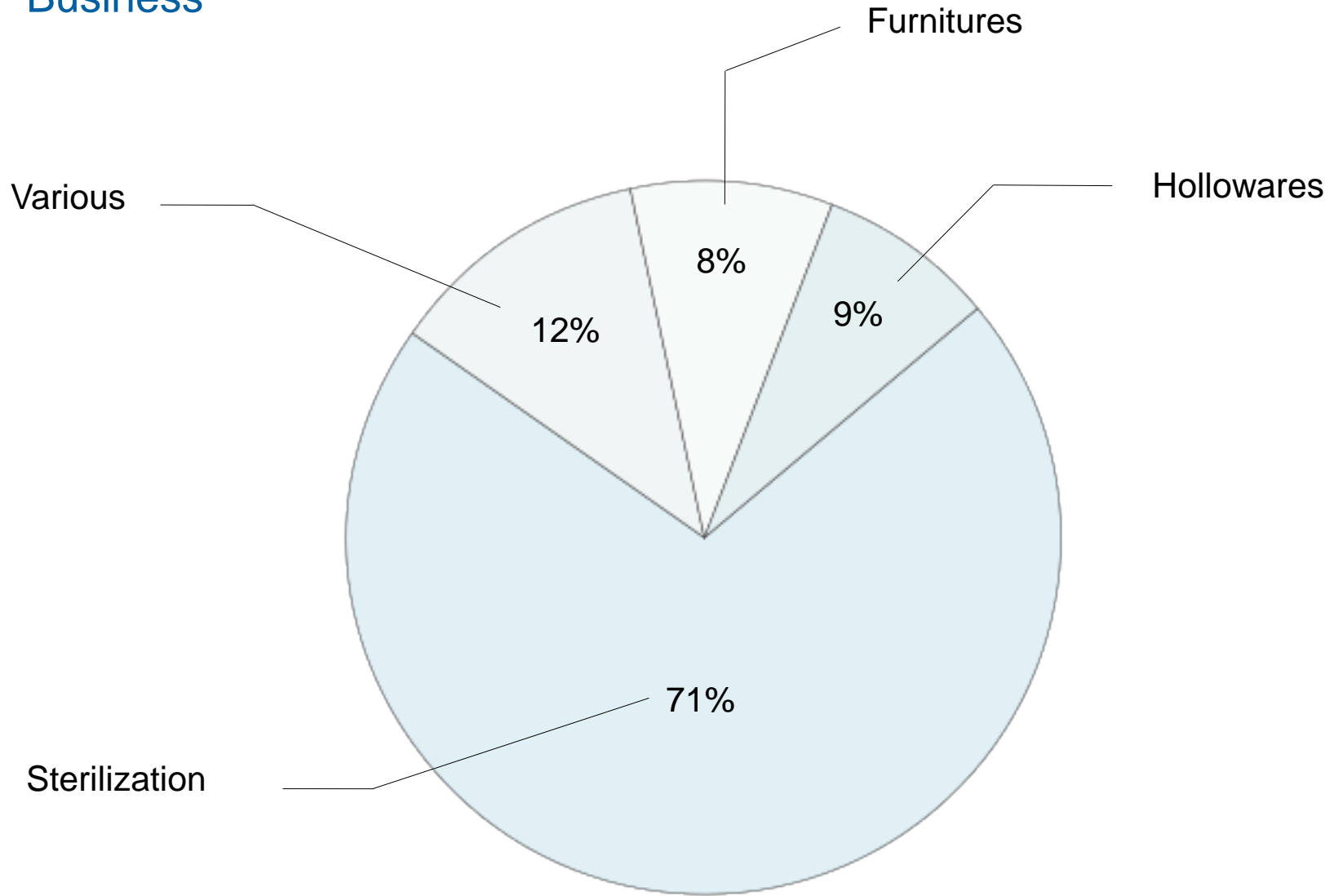
### In the World

|                   |                     |                 |                      |          |
|-------------------|---------------------|-----------------|----------------------|----------|
| Andorra           | Danimarca           | Korea           | Porto Rico           | Ukraina  |
| Afghanistan       | Ecuador             | Kuwait          | Portogallo           | Ungheria |
| Albania           | Egitto              | Lettonia        | Qatar                | Uruguay  |
| Algeria           | Emirati Arabi Uniti | Libano          | Regno Unito          | Vietnam  |
| Angola            | Eritrea             | Libia           | Rep. de Panama       | Yemen    |
| Arabia Saudita    | Estonia             | Lituania        | Repubblica Ceca      |          |
| Argentina         | Finlandia           | Lussemburgo     | Repubblica del Congo |          |
| Australia         | Francia             | Macedonia       | Repubblica Slovacca  |          |
| Austria           | Georgia             | Madagascar      | Romania              |          |
| Azerbaijan        | Germania            | Maldiva         | Russia               |          |
| BAHRAIN           | Ghana               | Malesia         | Senegal              |          |
| Bangladesh        | Giappone            | Malta           | Serbia               |          |
| Belgio            | Gibilterra          | Marocco         | Singapore            |          |
| Benin             | Giordania           | Mauritania      | Siria                |          |
| Bosnia Erzegovina | Gran Bretagna       | Mauritius       | Slovenia             |          |
| Brasile           | Grecia              | Messico         | Spagna               |          |
| Bulgaria          | Guatemala           | Moldavia        | Sri Lanka            |          |
| Burkina Faso      | Hong Kong           | Nigeria         | Sudafrica            |          |
| Cambogia          | Ile de la Reunion   | Norvegia        | Sudan                |          |
| Cameroon          | India               | Nuova Caledonia | Svezia               |          |
| Canada            | Indonesia           | Nuova Zelanda   | Svizzera             |          |
| Cile              | Iran                | Olanda          | Tanzania             |          |
| Cina              | Iraq                | Oman            | Thailandia           |          |
| Cipro             | Irlanda             | Pakistan        | Tunisia              |          |
| Corea del Sud     | Israele             | Palestina       | Turchia              |          |
| Costa d'Avorio    | Italia              | Perù            | U.S.A.               |          |
| Croazia           | Kenya               | Polonia         | Uganda               |          |



CBM

Business



# CBM

## From the first Formaldehyde Sterilizer to Hot Air



> CBM  
Formaldehyde  
sterilizer  
60's



> CBM Hot air  
sterilizer  
60's



> Water boilers  
70's



> CBM Hot air  
sterilizer  
«Panacea»  
70's

# CBM

## From the first Formaldehyde Sterilizer to Hot Air



> CBM Hot air  
sterilizer  
80's



> CBM Hot air  
sterilizer  
«electronic»  
90's



> CBM Hot air sterilizer «electronic»  
with Microprocessor  
2000

CBM

## Steam Sterilizers

- > Simple electromechanic Steam Sterilizers of 11 and 20 liters  
80's

**AUTOCLAVI Cap. 20 lt.**

art. 2195

art. 2198

art. 2200

**AUTOCLAVI Cap. 11 lt.**

art. 2102

art. 2190

art. 2190/S

CBM

## Steam Sterilizers

- > First 20 liters  
microprocessor  
controlled  
1988



CBM

## Steam Sterilizers

- > 20 and 11 lts. With vacuum pump  
1997



CBM

## Steam Sterilizers

- > 15 & 18 liters  
**type B** conforming to  
**EN 13060**  
2001

EGLE  
EGLE 20

Steam sterilizers  
Fractionated vacuum  
**CYCLES B**

EGLE  
fractionated vacuum  
CBM

Tecnologie della Sterilizzazione • Sterilization technologies • Technologies de la stérilisation • Technologien der Sterilisierung



CBM

## Steam Sterilizers

- > New autoclaves 17 & 23 liters **EN 13060** with **advanced electronic control**  
2013

Stainless  
Steel  
Steam  
Sterilizer

**SST2200<sup>B</sup>**  
**SST1700<sup>B</sup>**

Le tue nuove asSiSTenti




# CBM

## Directives and Norms

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# EU Directive 93/42 and Small Steam Sterilizers

- ④ Classification. → Class IIB
- ④ Essential requirements and harmonized norms → UNI EN 13060
- ④ Third party conformity assesment → For CBM is Det Norke Veritas
- ④ CE marking →   
0434

# CBM in technical working groups

- CBM is member of different working groups focused on sterilization. This give us the possibility to have always the latest know-how on sterilization. EN 13060 has been developed by CEN (European Committe for Standardization) Wg5, in which CBM actively partecipated. Wg5 has just completed the last revision of EN 13060.



International  
Organization for  
Standardization



European  
Committe  
for Standardization



Ente  
Italiano  
di unificazione



# EN 13060 European Norm on Small Steam Sterilizers

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**NORMA  
EUROPEA**

**Piccole sterilizzatrici a vapore**

**UNI EN 13060**

**APRILE 2015**

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**Small steam sterilizers**

**Versione italiana  
dell'aprile 2015**

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La norma specifica i requisiti prestazionali e i metodi di prova per piccole sterilizzatrici a vapore e per i cicli di sterilizzazione che sono utilizzati per scopi medici o per materiali che possono venire in contatto con sangue o liquidi fisiologici.

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# Scope and application

The standard is addressed to small steam sterilizers having the following characteristics.

- ④ Automatically controlled.
- ④ That generate steam using electrical heaters or use steam that is generated by a system external to the sterilizer.
- ④ Dedicated to medical devices sterilization.
- ④ Equipped with a chamber volume of less than 60 l and unable to accommodate a sterilization module (300 mm × 300 mm × 600 mm).

This European Standard does not apply to small steam sterilizers that are used to sterilize liquids or pharmaceutical products.

# Types of load

## ➤ **Solid**

Product that is not made from porous material and which has no recesses or features which present a greater or equal challenge to steam penetration than a simple hollow item



## ➤ **Porous**

Permeable to water, air or other fluids.

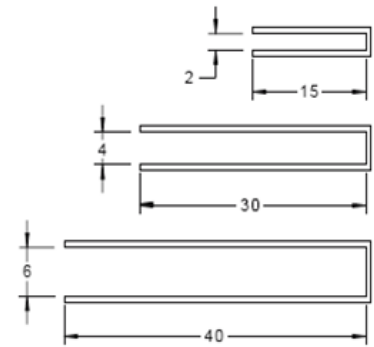


# Types of load

## ➤ **Narrow lumen**

### **[prev. Hollow A]**

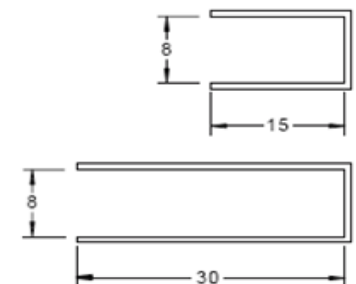
hollow device which is beyond the range defined for a simple hollow item, and which is neither solid nor porous)



## ➤ **Simple hollow item.**

### **[prev. Hollow B]**

single-ended open-space items where the ratio of length to diameter of the cavity is greater than or equal to 1 and less than/or equal to 5 ( $1 \leq L/D \leq 5$ ) and where the diameter is greater than or equal to 5 mm ( $D \geq 5$  mm) or double-ended open-space items where the ratio of length to diameter of the cavity is greater than/or equal to 2 and less than/or equal to 10 ( $2 \leq L/D \leq 10$ ) and where the diameter is greater than or equal to 5 mm ( $D \geq 5$  mm)





# Types of load

④ Wrapped «**single layer**».



④ Wrapped «**multiple layer**».





# Sterilization Cycle Types

Manufacturers shall carry out «work tests» in order to grant that the sterilizers achieve the performance requirements for the correct sterilization of each type of in each available cycle.

- **Cycle type B**
- **Cycle type S**
- **Cycle type N**



# Sterilization cycle

## Type B

Sterilization cycle tested and dedicated to all the types of load defined in the EN13060:

- ④ Wrapped or not Wrapped products.
- ④ Narrow lumens .
- ④ Solid and porous products.



# Sterilization cycle

## Type S

Sterilization cycle tested and dedicated to :

- ④ Non wrapped solid products.
- ④ The sterilization of products as specified by the manufacturer of the sterilizer including at least on of the following:
  - > Porous product
  - > Small porous items
  - > Lumen devices
  - > Bowls and receivers
  - > Single-layer wrapped products
  - > Multiple-layer wrapped products



# Sterilization cycle

## Type N

Sterilization cycle tested and dedicated to :

- Non wrapped solid products.



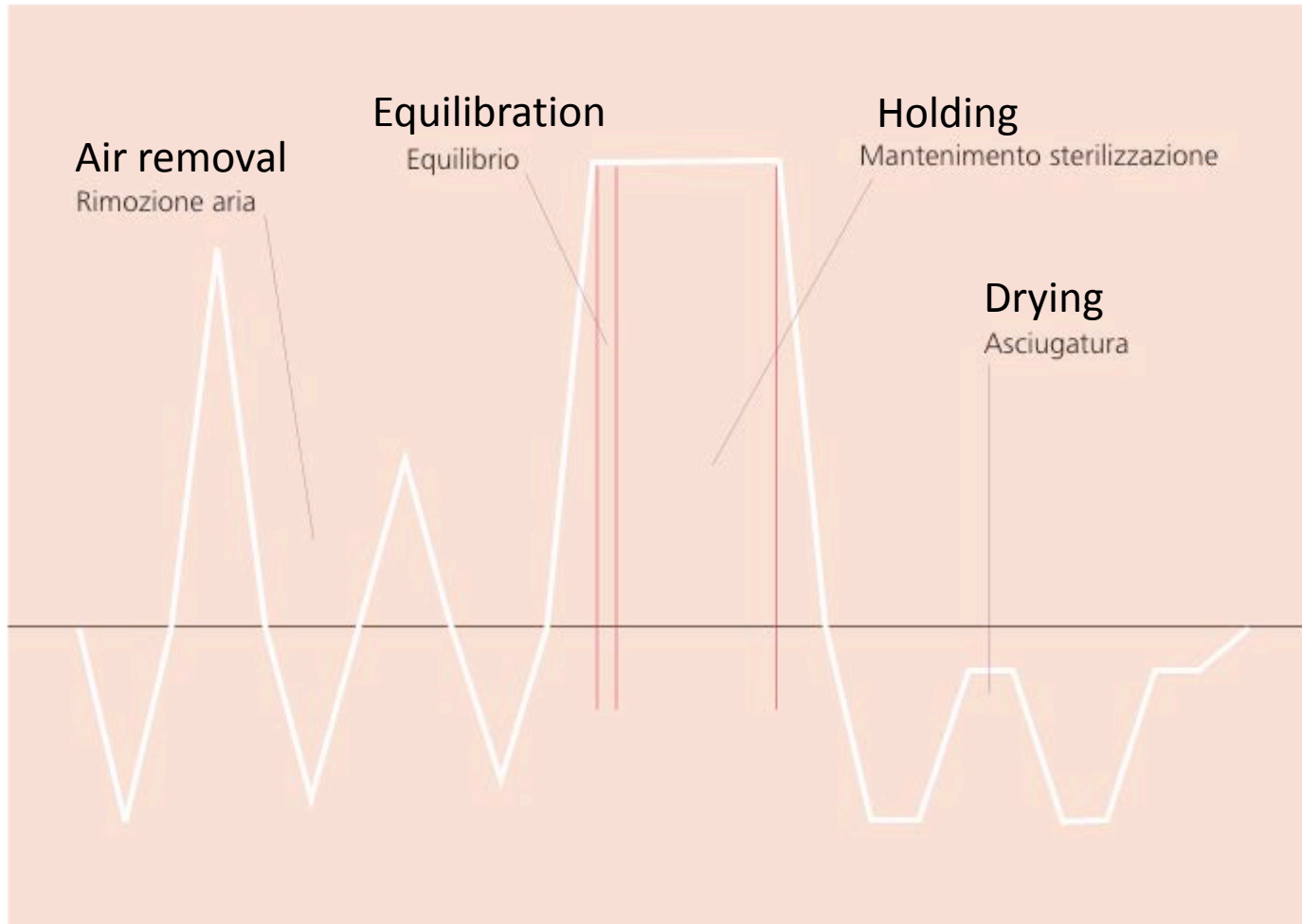
# Performance requirements

## EN 13060

- ④ Achieving and maintaining of the sterilization condition for saturated steam..
- ④ For moist heat sterilization using steam as the sterilant it is essential that all surfaces to be sterilized are subjected to saturated steam at a predetermined temperature for a predetermined period of time. Proper steam penetration into the load and — if applicable into the individual items — therefore is essential.
- ④ Steam penetration requires adequate air removal.

# Type B cycle Pressure – Temperature chart

## Fractionated vacuum





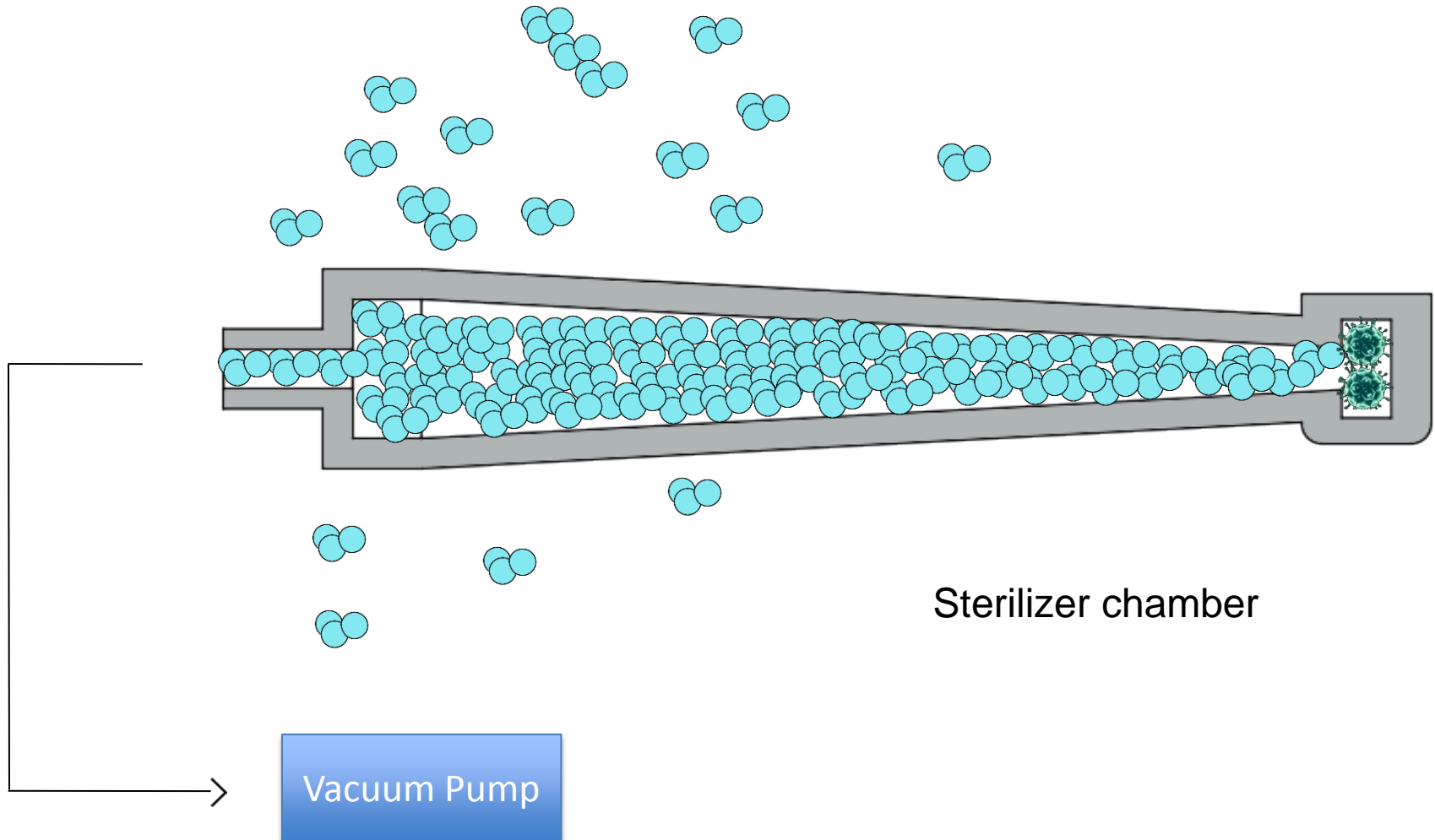
# Fractionated Vacuum

**Fractionated vacuum** system, by means of using thermodynamic effect of alternation between vacuum phases and steam injection, removes the air from the more complex items.



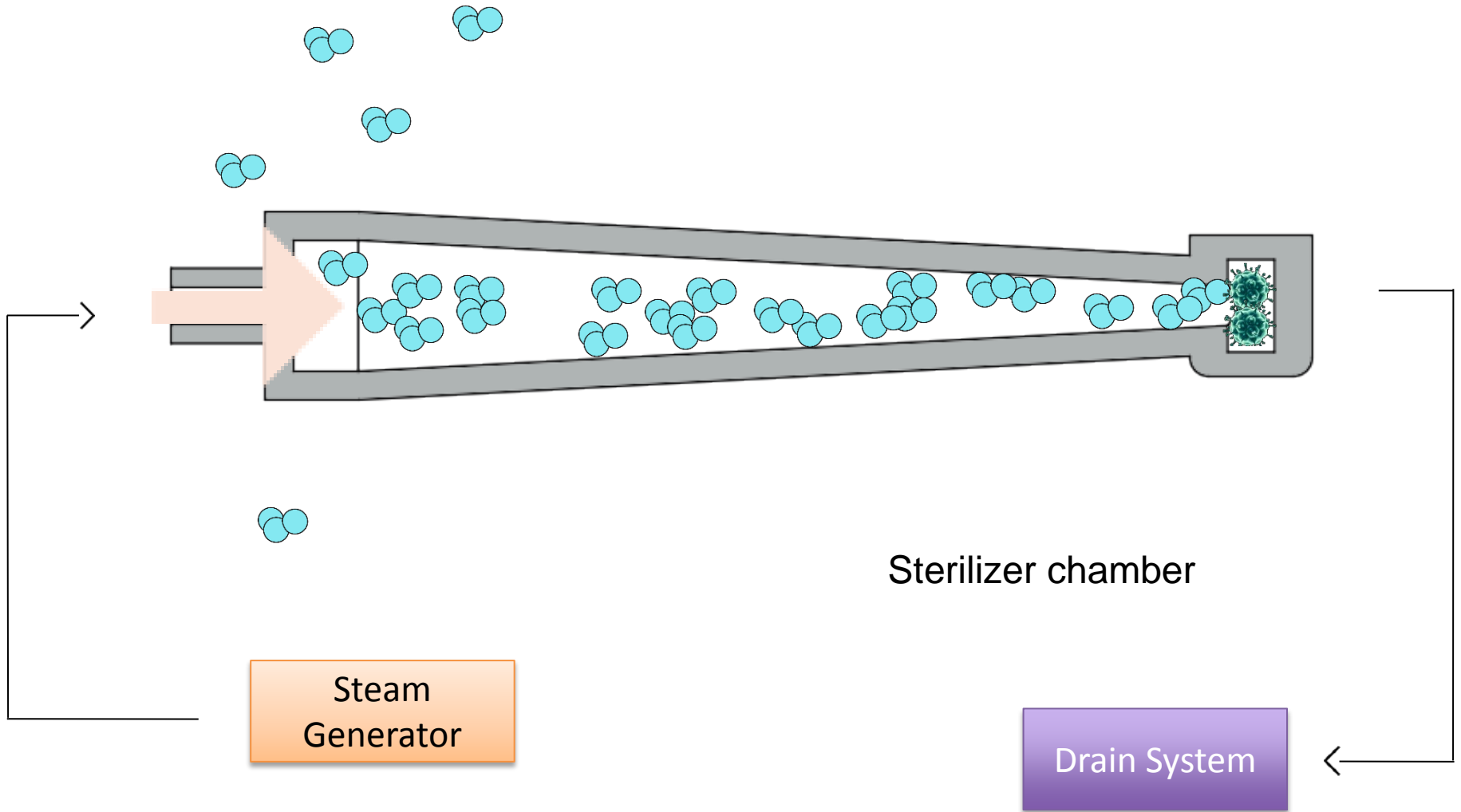
# Fractionated Vacuum

**Phase 1** – 1st vacuum = remove a big quantity of air using vacuum pump



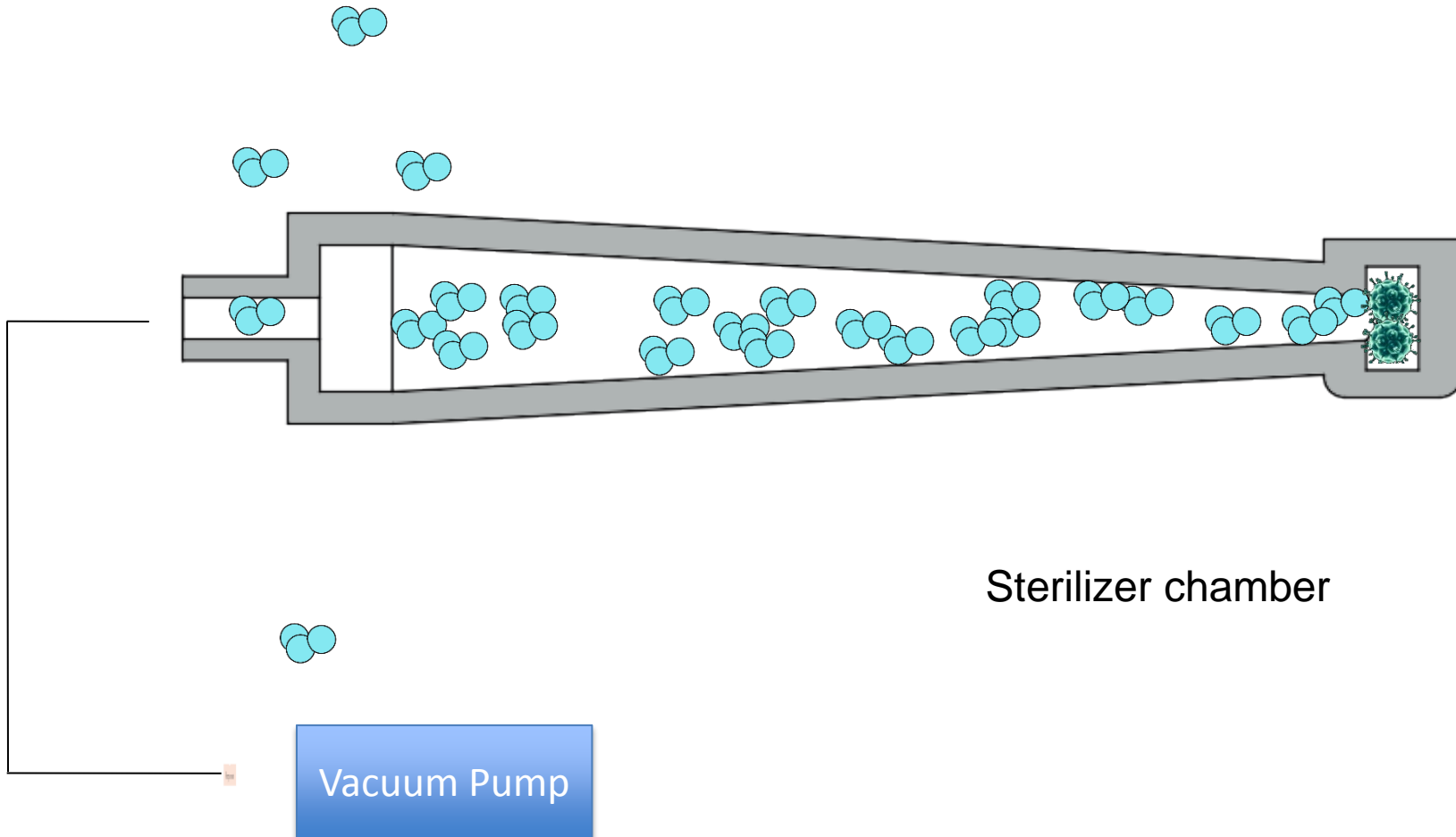
# Fractionated Vacuum

**Phase 2** – 1st steam injection and drain = Warm, compress the air and drain it



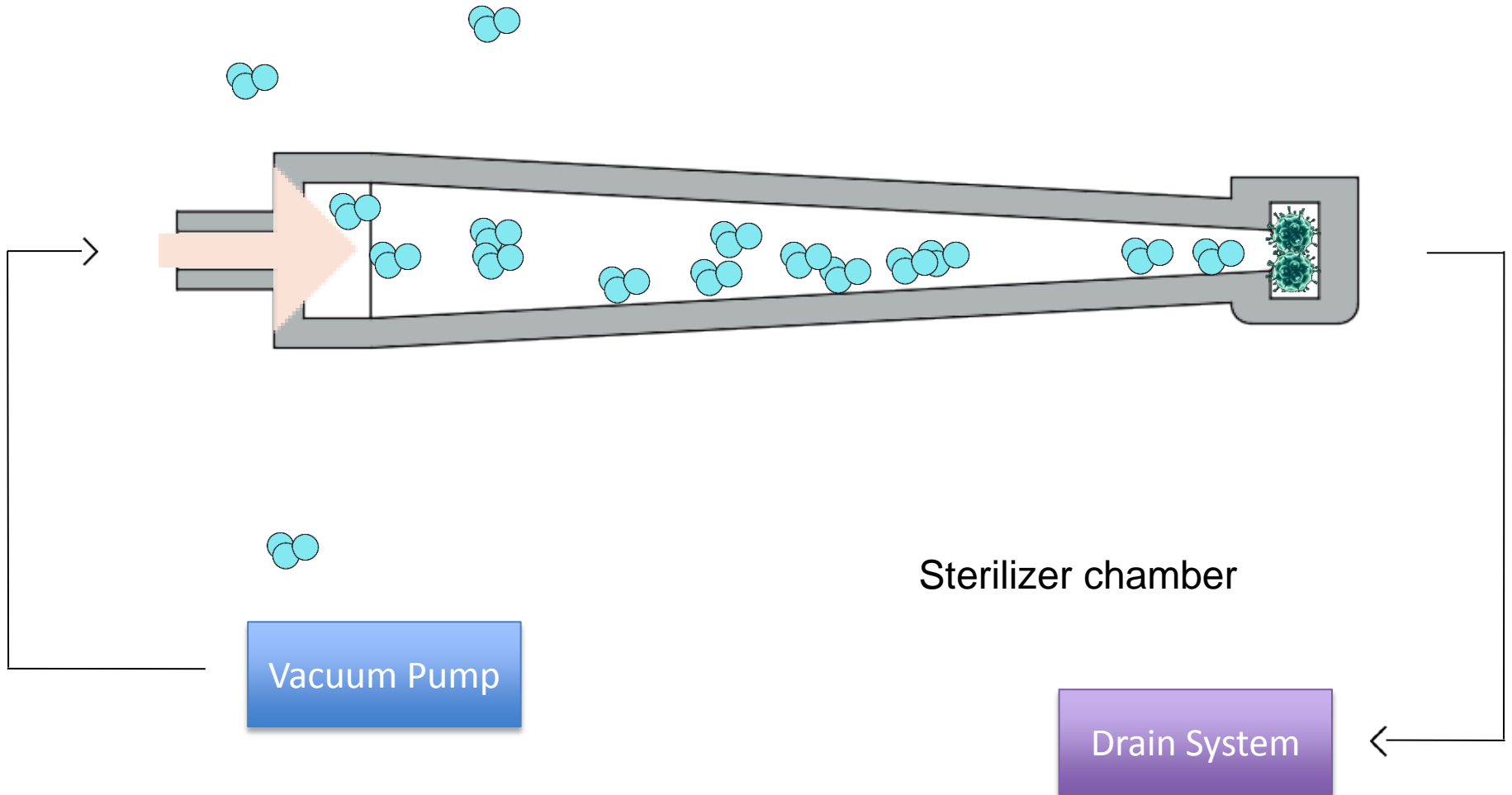
# Fractionated Vacuum

**Phase 3** – 2nd vacuum = remove again air using vacuum pump



# Fractionated Vacuum

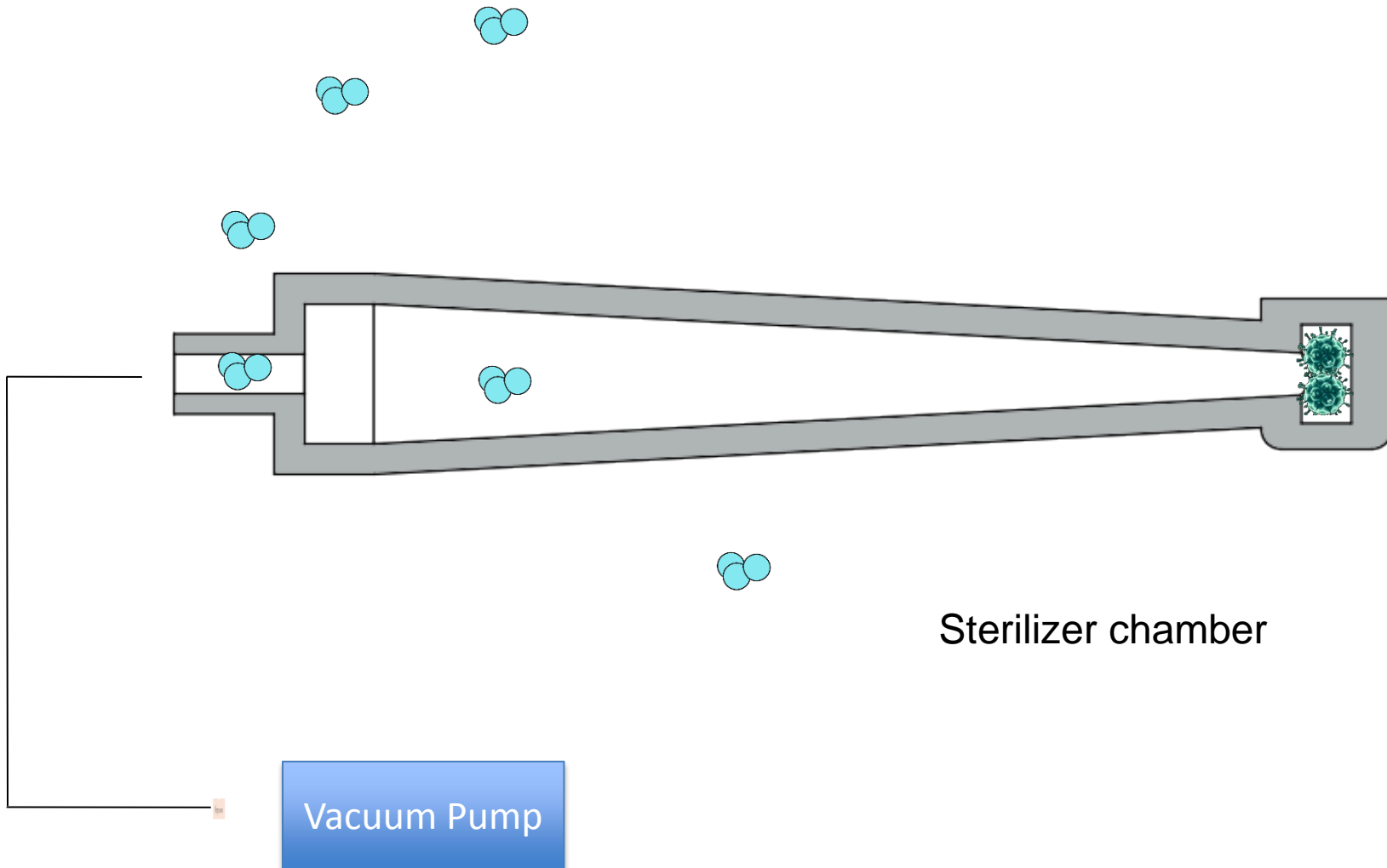
**Phase 4** – 2nd steam injection and drain = Warm, compress the air and drain it





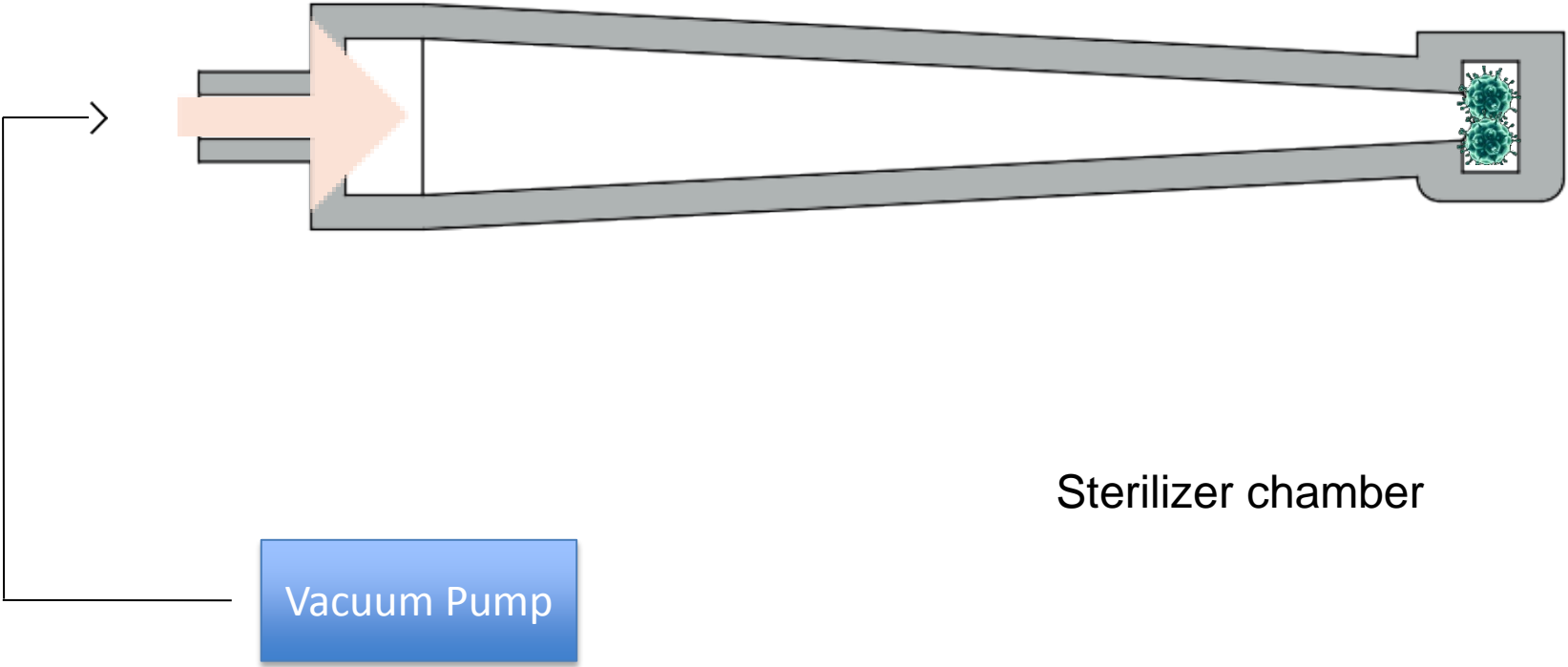
# Fractionated Vacuum

**Phase 5** – 3rd vacuum = remove again air using vacuum pump



# Fractionated Vacuum

**Phase 6** – sterilization



Sterilizer chamber

Vacuum Pump



# Controls during sterilization phase

The correct transfer of energy between the steam and the load takes place only in the presence of saturated steam. The standard defines the limits of the temperature changes, which may have place in the various points of the chamber and the load, during the sterilization phase. The pressure variations are also defined.

The proper sterilization conditions are achieved if, during the holding time, the temperatures inside the chamber and the load:

- > are not lower than the sterilization temperature
- > are not more than 3 K above the sterilization temperature (3°C).[prev.4°C]
- > Do not differ from each other by more than 2 K(2°C).

# Controls during sterilization phase

| Temperatura di Sterilizzazione (°C) | Tempo Minimo di Mantenimento (min.) |
|-------------------------------------|-------------------------------------|
| 121                                 | 15                                  |
| 126                                 | 10                                  |
| 134                                 | 3                                   |
| 143                                 | 1                                   |

The norm consider two methods for the evaluation of the correct sterilization conditions achievement through out the holding time:

- By the user, from readings obtained by the recording system and the  
> sterilizer indicating devices..
- > Automatically be means of a **“Process evaluation system”**.





# Drying

The packaging materials, used for maintaining sterility of the loads processed in small steam sterilizer, are affected by the percentage of residual humidity in the load at the end of the cycle. So it is necessary that the sterilizers ensure proper drying of loads after sterilization. The EN13060 defines the maximum residual moisture content of the loads.

- For solid loads, residual moisture content shall not exceed 0,2%
- For porous loads, residual moisture content shall not exceed 1%

# Water quality

The standard indicates, in an informative and therefore not binding, which is the quality of water to be used for steam generation.

## Annex C (informative)

### Suggested maximum limits of contaminants in and specification for water for steam sterilization

Table C.1 — Contaminants of condensate and feed water

|   | Feed water                          | Condensate                          |
|---|-------------------------------------|-------------------------------------|
| Evaporate residue   | ≤ 10 mg/l                           | ≤ 1,0 mg/l                          |
| Silicium oxide, SiO <sub>2</sub>  | ≤ 1 mg/l                            | ≤ 0,1 mg/l                          |
| Iron  | ≤ 0,2 mg/l                          | ≤ 0,1 mg/l                          |
| Cadmium   | ≤ 0,005 mg/l                        | ≤ 0,005 mg/l                        |
| Lead  | ≤ 0,05 mg/l                         | ≤ 0,05 mg/l                         |
| Rest of heavy metals, excluding iron, cadmium, lead   | ≤ 0,1 mg/l                          | ≤ 0,1 mg/l                          |
| Chloride  | ≤ 2 mg/l                            | ≤ 0,1 mg/l                          |
| Phosphate   | ≤ 0,5 mg/l                          | ≤ 0,1 mg/l                          |
| Conductivity (at 20 °C)   | ≤ 15 μS/cm                          | ≤ 3 μS/cm                           |
| pH value  | 5 to 7,5                            | 5 to 7                              |
| Appearance  | colourless, clean, without sediment | colourless, clean, without sediment |
| Hardness  | ≤ 0,02 mmol/l                       | ≤ 0,02 mmol/l                       |
| NOTE The condensate is produced from steam that has been taken from the empty sterilizer chamber. |                                     |                                     |

Compliance should be tested in accordance with acknowledged analytical methods. The use of water for steam generation with contaminants at levels exceeding those given in this Table can greatly shorten the working life of a sterilizer.

# ISO17665

Protocols of washing, packaging, sterilization and verification of performances of the process can be carried out by applying all or part of the information contained in the following norm.

|                          |   |   |
|--------------------------|---|---|
| <b>NORMA<br/>EUROPEA</b> | <b>Sterilizzazione dei prodotti sanitari</b><br><b>Calore umido</b><br>Parte 1: Requisiti per lo sviluppo, convalida e il controllo di routine di un processo di sterilizzazione per dispositivi medici | <b>UNI EN ISO<br/>17665-1</b><br><br>GENNAIO 2007 |
|--------------------------|---|---|

# ISO17665

The ISO17665-1 requires that each steam sterilizers equipped with a **dynamic** air removal (vacuum pump) shall be daily checked with:

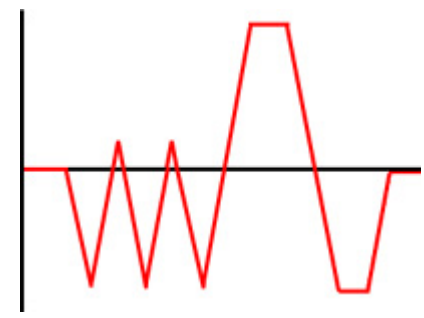
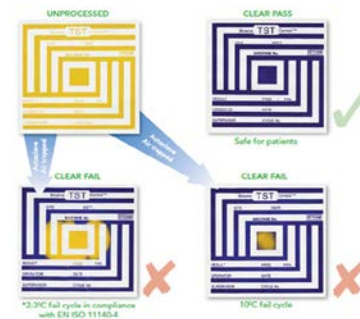
➤ Air Leackage test.



➤ Steam penetration test (Helix test or Bowie & Dick test).



The sterilizer shall be also annually validated according to the ISO 17665.





# SST2200B & SST1700B

Main characteristics

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# Deep drawn stainless steel chamber

The sterilization chamber, made of **austenitic stainless steel Aisi304**, is manufactured in a seamless piece by means of **deep drawing**.

This process allows the use of a smaller thickness, **reducing the total mass** of pressure vessel, thus **avoiding the waste of time and energy** used to merely warm up the chamber.

Moreover the chamber is **electropolished**. This treatment enhances the **corrosion resistance and improves the cleaning procedures**.



# Automatic door locking system

**SST2200B** and **SST1700B** are equipped with an **automatic door locking system** microprocessor controlled.

Two sturdy stainless steel hooks, activated by a gearbox, hang firmly the door and **avoid the opening of the door until the pressure is inside the chamber.**



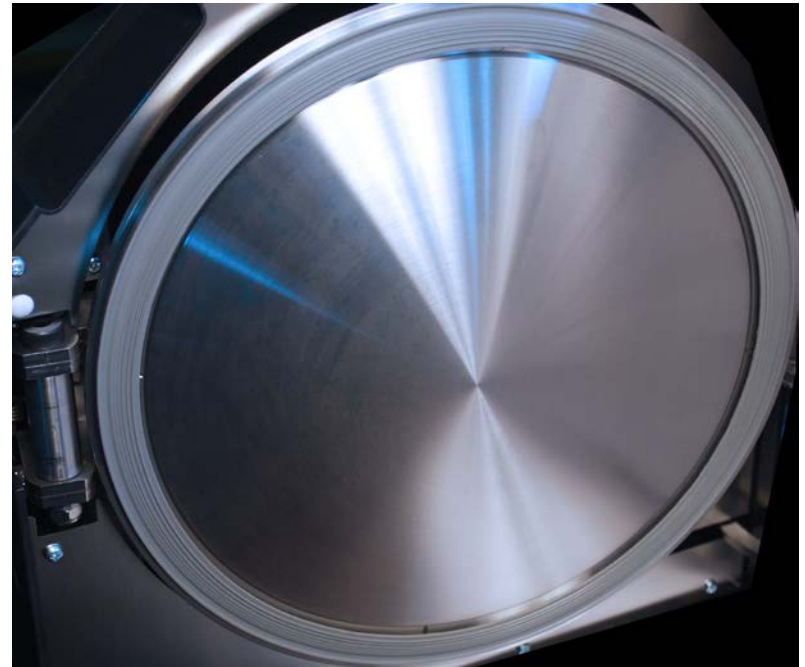


# Automatic door locking system

The door plate is equipped with a not glued **gasket easily replaceable**.

The door gasket is never compressed before the beginning of the cycle, this improves the shelf life of the component.

The correct door closure is continuously controlled during sterilization cycle by means of **3 sensors**.

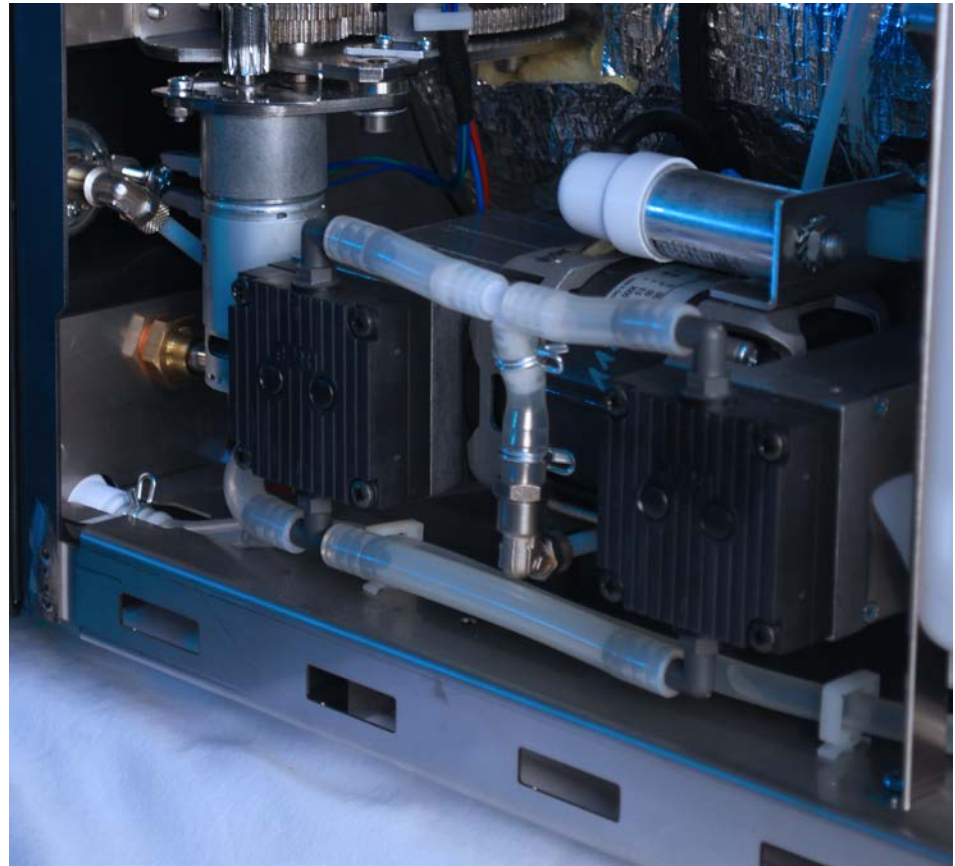




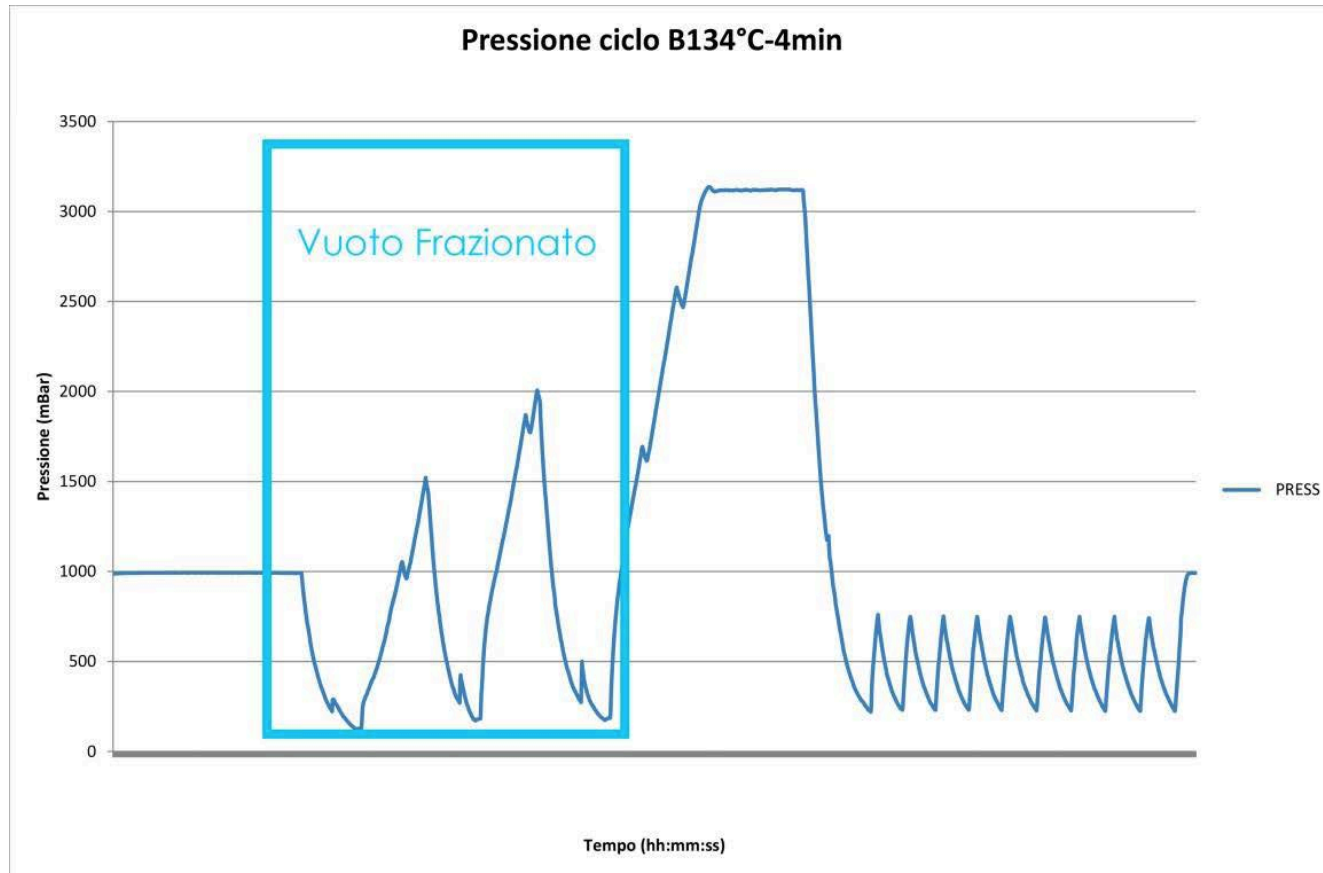
# Air removal system

In order to assure the proper air removal from the load, the fractionated vacuum process is carried out by means of using a **triple head membrane pump**.

The hydraulic circuit has been designed in order to assure the maximum vacuum pump performances, that is never affected by water or steam passing through its heads.



# Air removal system



The 28 lt/min vacuum pump allows the completion of a standard cycle in 35 minutes\*

\*Cycle 134°C – 4 minutes - B=25 air removal and sterilizzazione +10 minutes ECO drying (average load)



# Cooling system

In order to improve the vacuum pump performances, condense the drained steam and lower the sterilizer internal temperature, CBM sterilizers are equipped with a **double fans cooling system**.

In order to **lower the fans noise** , they turn at maximum speed only when needed.



# Cooling system

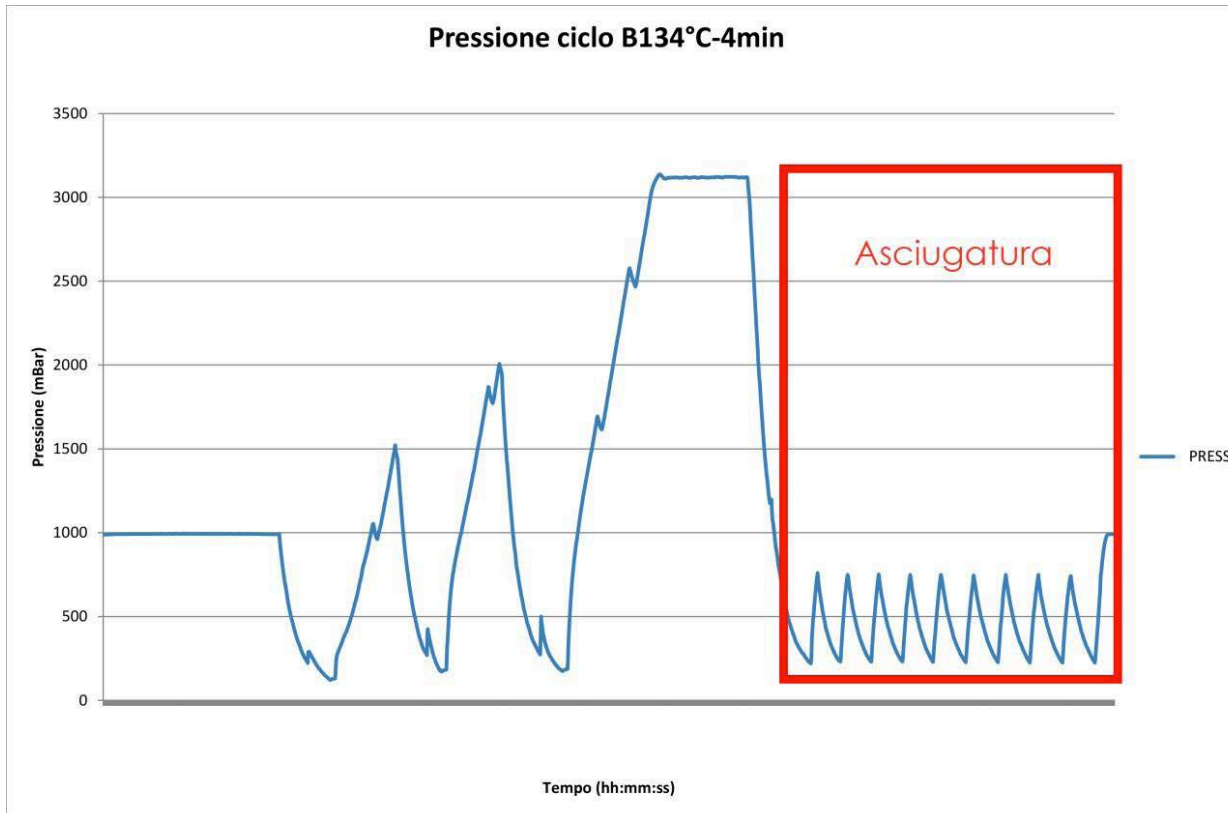
In other situation fans turn slower or are switched off..

The cooling air entering into the sterilizer is filtered .

In this manner **dust deposit are avoided** into the chassis and the cooling system remain efficient.



# Drying.



The drying of loads is carried out under vacuum. The negative pressure created by the pump let the residual moisture evaporate because of the load residual temperature and because of the band heating element .

# Drying

The pre-set drying phase can be :

- Removed
- Double
- Self evaluating (**ECO mode**)

Anyhow the standard drying is able to grant the achieving of residual moisture content percentages requested by the EN13060:

Maximum 0,2% for solid load  
Maximum 1% for porous load

The air admitted to return into the chamber at the end of the drying phase is filtered by the **bacteriological air filter** . The filter is placed in the front panel in order to be **easy replaceable**.



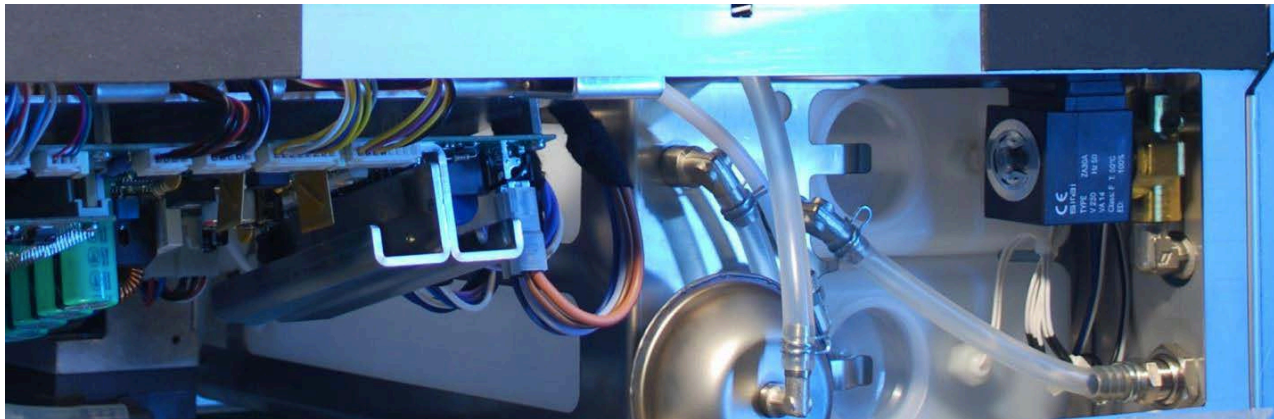
# Water management system

## Double tanks

CBM sterilizers are equipped with internal double tanks of about 3 litres each one.

One tank is dedicated for clean demineralized water and the second one is for the used water.

The sterilization cycle **always use clean water in order to protect instruments** and the apparatus itself from deposit.



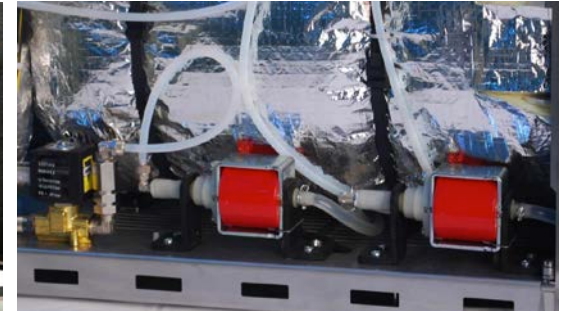


# Water management system

## Filling system

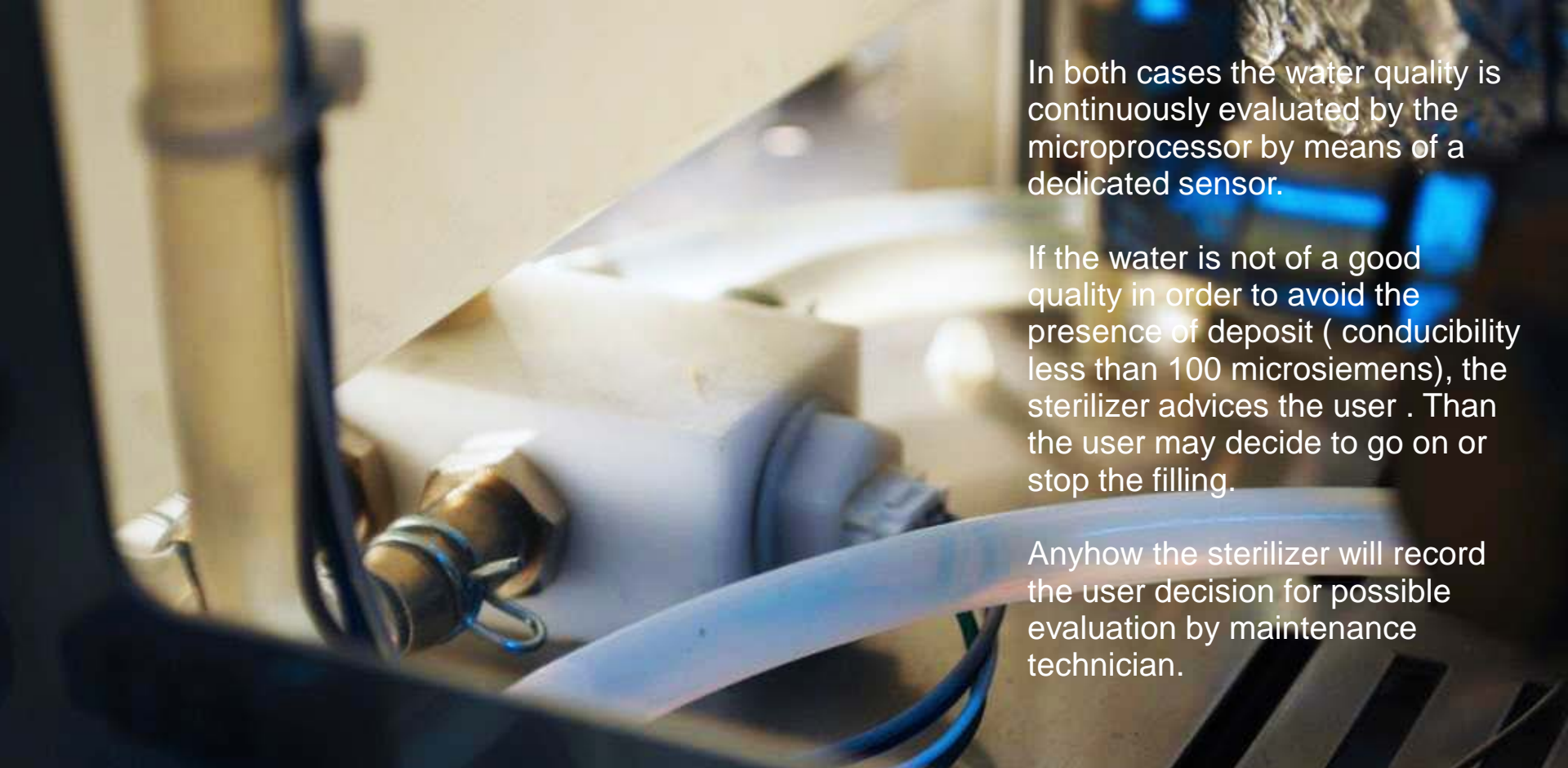
The water filling inside the tank can be done in two ways:

- **Interactively** by means of the dedicate software utility and the tap in the front panel
- **Automatically** by means of connecting the sterilizer to a source of demineralized or osmotized water.



# Water management system

## Water quality evaluation system



In both cases the water quality is continuously evaluated by the microprocessor by means of a dedicated sensor.

If the water is not of a good quality in order to avoid the presence of deposit ( conductivity less than 100 microsiemens), the sterilizer advises the user . Then the user may decide to go on or stop the filling.

Anyhow the sterilizer will record the user decision for possible evaluation by maintenance technician.

# Water management system

## Water quantity

CBM sterilizers have been designed in order to **reduce as much as possible the water usage.**

The generator is in fact always filled with **just the amount strictly necessary for one cycle.**

With a full tank it is possible to make an average of 6 to 8 sterilization cycle.



# Electronic and electricity waste reduction system

## Electronic control boards

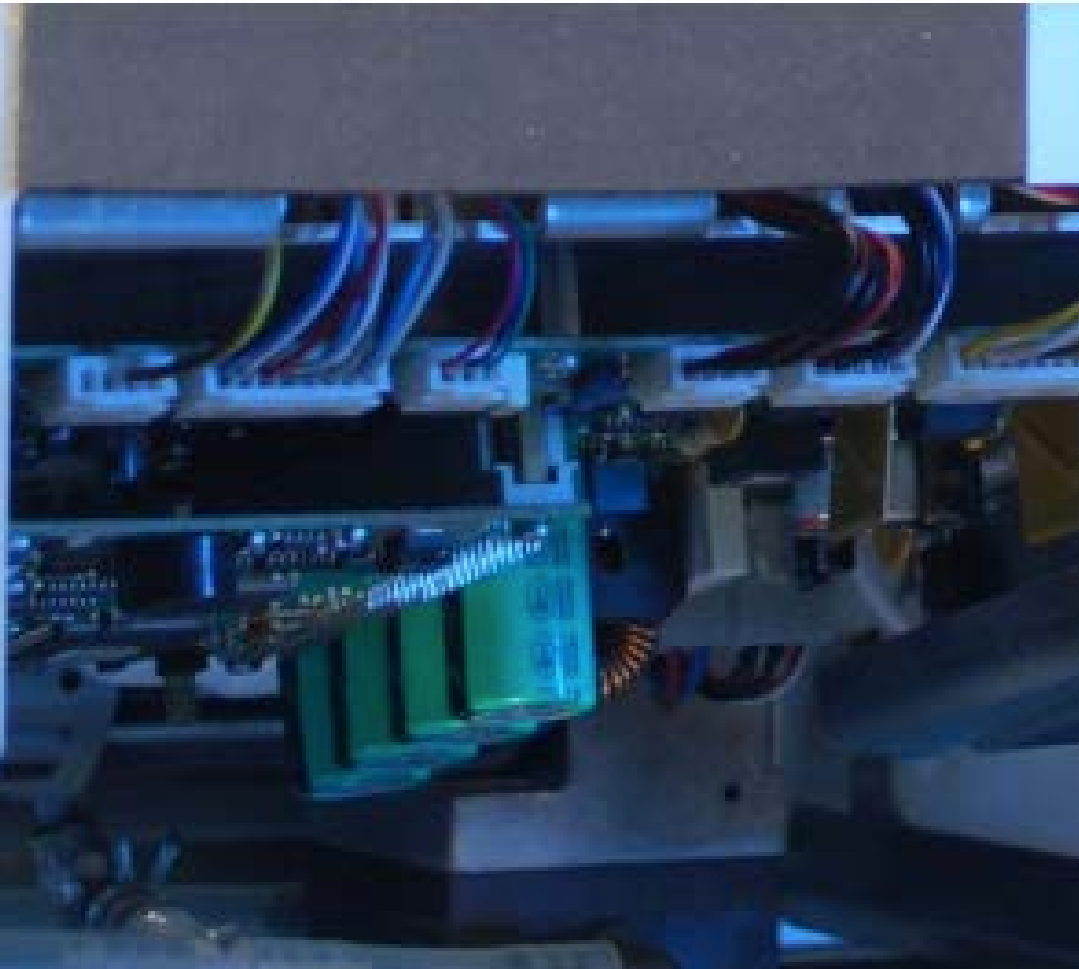
The autoclaves are equipped with an **electronic control of the latest generation** managed through a user interface with graphical 5.7 "resistive" **touch screen display**, that can be used even when wearing gloves.

The control system consists of 3 dedicated cards , manufactured with SMT technology. The electronics designed by CBM is absolutely free from problems due to electromagnetic interference.



# Electronic and electricity waste reduction system

## Electronic control boards

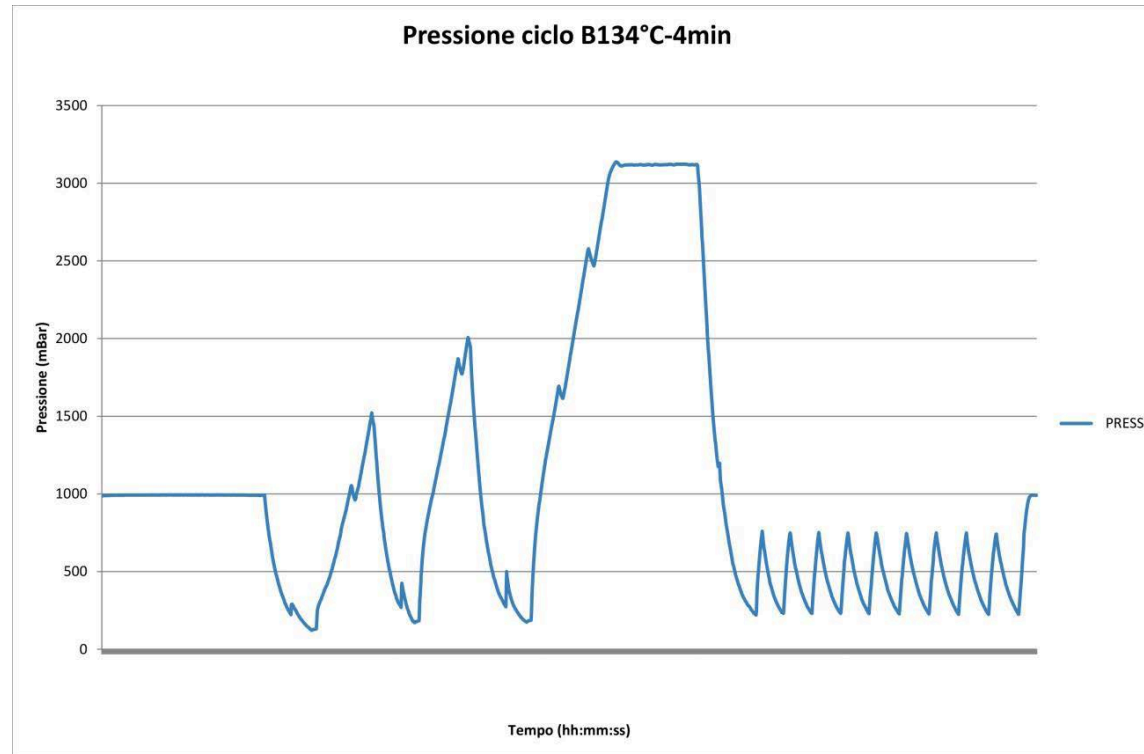


Hardware and firmware have been designed with great care for energy saving. The system power control is able to modulate the voltage supplied to the various components.

In this way it is possible to provide power in proportion to the actual need. For example it is possible to feed the steam generator and the band, without let the power exceeds 2050 watts.

# Elettronic and electricity waste reduction system

## P.I.D. and process evaluation system



The achievement and maintenance of the correct sterilization conditions is obtained thanks to the control software that uses a sophisticated algorithm **PID (Proportional Integral Derivative)**.



# Electronic and electricity waste reduction system

## P.I.D. and process evaluation system

The efficacy of sterilization cycle is **automatically verified by the process evaluation system** integrated into the software.

The microprocessor read the real temperature by means of PT1000 chamber sensor and compare it with the theoretical saturated steam temperature (Molier chart), derived from the absolute pressure chamber sensor.

In any case, both temperatures must not be below the sterilization temperature or be over it by more than 3°C . In the same time temperatures must not differ for more than 2°C.





# Unique Eco-Drying system

**specially designed by CBM to optimize the total cycle time**

SST Sterilizers are provided with an intelligent drying mode called CBM ECO Drying that automatically evaluates the load volume and decides the correct drying time.

The ECO Drying reduces dramatically the total cycle time and reduces the electricity consumption as well.

This feature makes SST models on the top list of the fastest small steam sterilizers.



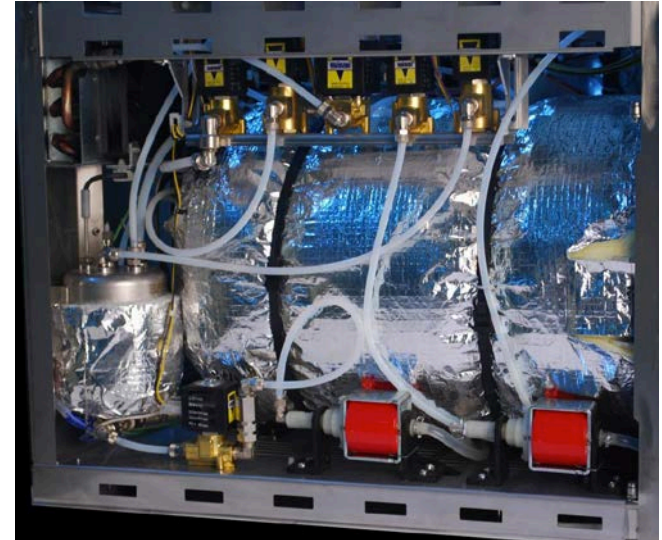


# Chassis and easyness of maintenance

Both models have a **frame entirely manufactured in stainless steel Aisi304**.

The sterilizer has been designed in order to **easy the access of technicians**.

Hydraulic and electric parts are grouped and **clearly identified** for a quick identification.



# Models and optionals

Sterilizers are available in two capacities, **17 and 23 litres**, having the same external dimensions.

Autoclaves can be sold with or without **integrated printer**.

It is also possible, for model without integrated printer, to use an external printer connected to the RS232 port placed in the back of the sterilizer.





# Data recording software

All models are equipped with a **USB integrated port** and are sold together with a 1Gb USB **pen-drive** that is able to record up to **10000 cycles**.

Autoclave registers in the external memory the data of each executed sterilization cycle. The sterilizer is supplied together with “**CBM-Sterireport**” software that is used to download data from USB pen and to create traceability reports. Reports can be printed or stored in electronic format.

| RAPPORTO CICLO DI STERILIZZAZIONE |                             |                         |                        |            |           |
|-----------------------------------|-----------------------------|-------------------------|------------------------|------------|-----------|
| <b>DATI UTENTE:</b>               |                             |                         |                        |            |           |
| Nome Azienda                      | CBM srl a socio unico       |                         |                        |            |           |
| Indirizzo                         | via Castello 10/A           |                         |                        |            |           |
| Telefono                          | +39 0375 394095             |                         |                        |            |           |
| e-mail                            | tecnico@cbm-srl.com         |                         |                        |            |           |
| Responsabile                      | laboratorio                 |                         |                        |            |           |
| <b>DATI APPARECCHIATURA:</b>      |                             |                         |                        |            |           |
| Modello                           | SST2200                     |                         |                        |            |           |
| Numero di Serie                   | 563                         |                         |                        |            |           |
| Nr.di Cicli                       | 103                         |                         |                        |            |           |
| <b>CICLO:</b>                     |                             |                         |                        |            |           |
| Nome File:                        | 05830103.CBM                |                         |                        |            |           |
| Data                              | venerdì 9 maggio 2014 11:28 |                         |                        |            |           |
| Pressione Atmosferica             | 1,013                       |                         |                        |            |           |
| Conducibilità H2O                 | ---                         |                         |                        |            |           |
| Ciclo                             | Helix test                  |                         |                        |            |           |
| Asciugatura                       | Drying                      |                         |                        |            |           |
| <b>Risultato del Ciclo</b>        |                             |                         | <b>Ciclo completo!</b> |            |           |
| <b>DATI CICLO:</b>                |                             |                         |                        |            |           |
| Fase nrr.                         | Descrizione                 | Temperatura Camera (C°) | Pressione Camera (Bar) | Start Fase | Fine Fase |
| 1                                 | riscaldamento               | 51,28                   | 0,003                  | 11:28:44   | 11:29:23  |
| 2                                 | vuoto                       | 48,59                   | -0,858                 | 11:29:23   | 11:33:03  |
| 3                                 | iniezione vapore            | 109,18                  | 0,49                   | 11:33:03   | 11:35:53  |
| 4                                 | vuoto                       | 63,81                   | -0,809                 | 11:35:53   | 11:38:15  |
| 5                                 | iniezione vapore            | 120,44                  | 0,99                   | 11:38:15   | 11:40:33  |
| 6                                 | vuoto                       | 76,2                    | -0,811                 | 11:40:33   | 11:43:18  |
| 7                                 | iniezione vapore            | 135,23                  | 2,128                  | 11:43:18   | 11:46:45  |
| 8                                 | sterilizzazione             | 135,54                  | 2,136                  | 11:46:45   | 11:50:17  |
| 9                                 | scarico                     | 122,3                   | 0,187                  | 11:50:17   | 11:51:10  |
| 10                                | asciugatura                 | 91,86                   | -0,036                 | 11:51:10   | 11:53:07  |
| 11                                | fine ciclo                  |                         |                        |            | 11:53:07  |



| RAPPORTO CICLO DI STERILIZZAZIONE        |             |
|--|-------------|
| <b>STATISTICHE DEL CICLO</b>             |             |
| Temperatura Camera Min. (°C)             | 135,30      |
| Temperatura camera Max. (°C)             | 135,55      |
| Pressione camera Min. (Bar)              | 2,119       |
| Pressione camera Max. (Bar)              | 2,134       |
| Temperatura teorica del vapore Min. (°C) | 135,1       |
| Temperatura teorica del vapore Max. (°C) | 135,2       |
| Tempo totale del ciclo                   | 00:24:23    |
| <b>GRAFICO DEL CICLO:</b>                |             |
|  |             |
| <b>APPROVATO:</b>                        |             |
| Responsabile                             | laboratorio |
| Data                                     |             |
| Commenti                                 |             |
| Firma                                    |             |





## Accessories

The autoclave is sold with a standard shelves support that can accept up to 4 trays or 2 minicontainers.

Each sterilizer is supplied with 4 stainless steel trays, one handle for tray removal.



# Optional packaging system

CBM manufacture a very wide range of reusable packaging systems, that represent the more skillful solution for:

- ④ Reduce the cost of disposables
- ④ Handle safely the instruments.
- ④ Protect very delicate intrusments.





# SST2200B & SST1700B

Performance

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# Performance

## Loads







### LIMITS OF LOAD (Gross weight kg )

|                            |             |             |             |             |
|----------------------------|-------------|-------------|-------------|-------------|
| <b>Maximum solid load</b>  | 6 (23lbs)   | 6 (23lbs)   | 6 (23lbs)   | 6 (23lbs)   |
|                            | 4.5 (17lbs) | 4.5 (17lbs) | 4.5 (17lbs) | 4.5 (17lbs) |
| <b>Maximum porous load</b> | 2 (23lbs)   | 2 (23lbs)   | 2 (23lbs)   | -           |
|                            | 1.5 (17lbs) | 1.5 (17lbs) | 1.5 (17lbs) |             |



# Performance

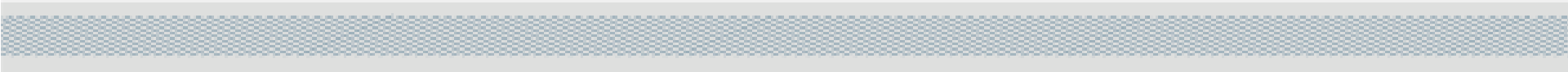
## Cycles

|   |  delicate |  standard |  |  flash |  |  |
|---|--|--|---|---|---|---|
| Cycle type EN 13060 (°C)  | B  | B  | B   | S   | Helix & B.D. Test   | Air Leakage Test  |
| Sterilization Temperature (°C)                                    | 121  | 134  | 134   | 134   | 134   |   |
| Sterilization Pressure (bar)                                      | 1.1  | 2.15   | 2.15  | 2.15  | 2.15  |   |
| Duration of sterilization phase (min)                             | 18   | 4  | 20  | 4   | 3.5   |   |
| Duration of drying phase (minutes)                                | 0-15-30-ECO  | 0-15-30-ECO  | 0-15-30-ECO   | 0-15-30-ECO   |   |   |
| Total cycle time ( medium load and ECO drying) 23 liters SST2200B | 35   | 22   | 38  | 16  | 17  |   |
| Total cycle time ( medium load and ECO drying) 17 liters SST1700B | 37   | 25   | 41  | 17  | 18  |   |
|   | Unpacked, packed or double packed  |  |   | Unpacked  |   |   |
| <b>Solid</b>  | Yes  | Yes  | Yes   | Yes   | Empty chamber or test PCD's/ indicators   |   |
| <b>Small porous</b>   | Yes  | Yes  | Yes   | No  |   |   |
| <b>Porous</b>   | Yes  | Yes  | Yes   | No  |   |   |
| <b>Hollow type A</b>  | Yes  | Yes  | Yes   | No  |   |   |
| <b>Hollow type B</b>  | Yes  | Yes  | Yes   | Yes   |   |   |
| <b>LIMITS OF LOAD (Gross weight kg)</b>                           |  |  |   |   |   |   |
| <b>Maximum solid load</b>   | 6 (23lbs)<br>4.5 (17lbs)   | 6 (23lbs)<br>4.5 (17lbs)   | 6 (23lbs)<br>4.5 (17lbs)  | 6 (23lbs)<br>4.5 (17lbs)  | Not suitable for sterilization  |   |
| <b>Maximum porous load</b>  | 2 (23lbs)<br>1.5 (17lbs)   | 2 (23lbs)<br>1.5 (17lbs)   | 2 (23lbs)<br>1.5 (17lbs)  | -   |   |   |





**THANK YOU FOR THE ATTENTION!!**





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