

The Asepsis Cycle

- From the Treatment Room
- Through the Cleaning and Sterilizing Process
- and back to the Treatment Room

Menu



Stage 1

- Put on Kitchen Gloves
- Removal of the Items from the Treatment Room to the Dirty Area

Menu



Stage 2

- Spraying of the Items with Cold Water to Wash off Loose Debris and Protein

Stage 3

Ultra Sonic Bath



Stage 4

- Cold Water Rinse
- Disinfector/Bar Glass Dishwasher

Menu



Ultrasonic Chemicals for Cleaning and Disinfection

- For Example Gigasonic from Schulke and Mayr
- 5 minute at 3%

Effective against

- Bacteria including Tuberculosis
- Fungi
- Viruses including
Hepatitis B and C and Aids

Disinfectors

- Washes and Cleans
- Thermal Disinfection
- Chemical Disinfection
- Drying
- 35 minute Cycle

Menu



Disadvantages of Disinfectors

- Long Cycle
- Only Average of 9 Cycles per day
- Expensive Item
- Expense of Increase in Instruments required

Menu



Glass Dishwashers

Menu



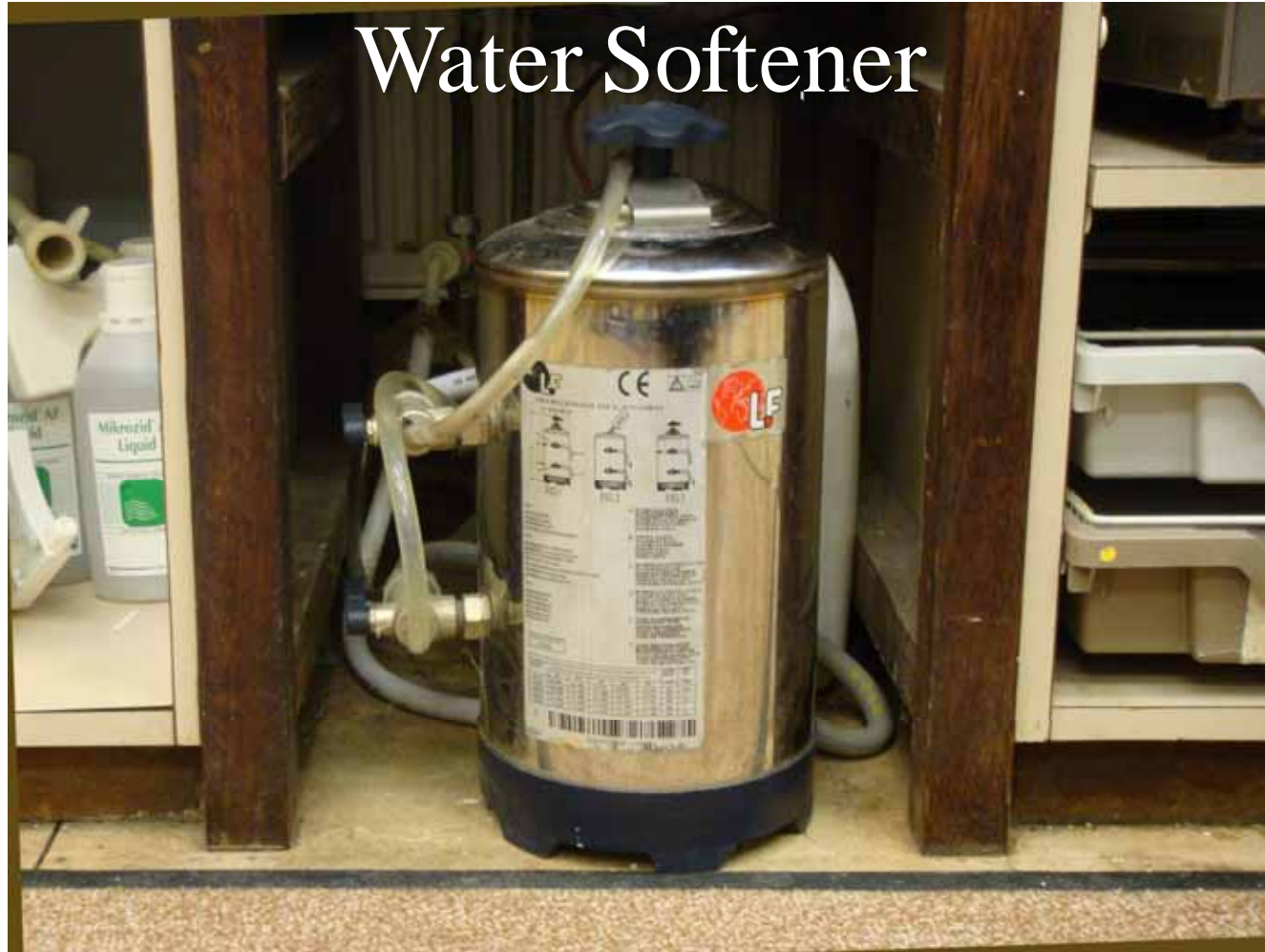
A Glass Dishwasher





Water Softener

Water Softener



Commercial Glass Dishwashers

- 2 minute Cycle
- Washes and Cleans
- Thermal Disinfection
- Chemical Disinfection
- No Drying









Advantages of Glass Dishwasher

- Very Short Cycle
- Many Cycles possible per day
- Powerful Chemicals used
- Inexpensive
- No need for Extra Instruments

Stage 5

- Inspection of Items for Cleanliness
- Preparation of Items for Autoclaving

Menu



Stage 6

Vacuum Autoclaving



Deionozer



Stage 6

- Storage

Menu



Stage 7

- Delivery onto the Work Surface

Menu



Types of Autoclaves

- Non-Vacuum
- Vacuum

Non-Vacuum Autoclaves

- Water is introduced by Gravity to the required Level
- Heated to required Temperature 134-137 degrees

Menu



- Held at this Temperature
for 3 to 5 minutes
- Steam is discharged to
Atmospheric pressure as the
Water is discharged

Menu



The Principles of Autoclaving
Saturated Steam kills Organisms
by liberating
its Latent Heat of Vaporization
To kill Organisms Saturated Steam
must reach the Organisms

Menu



Saturated Steam cannot displace
Air in Confined Spaces

Such as

Any Item with a Hole in it
and Anything containing an Air
Pockets (Lumens)

Menu



For Example

- Bagged Items
- Wrapped Items
- Handpieces
- Artery Forceps
- Needle Holders

- Internally Irrigated Implant Drills
- Cotton Items
- Gauze
- Cloth Items

Menu



Steam cannot displace the Air
in these Items

Non-Vacuum Autoclaves
cannot be used to sterilize
These Items

Menu



Vacuum Autoclaves

- Pre-treatment Stage
- Sterilizing Stage
- Post-treatment Stage

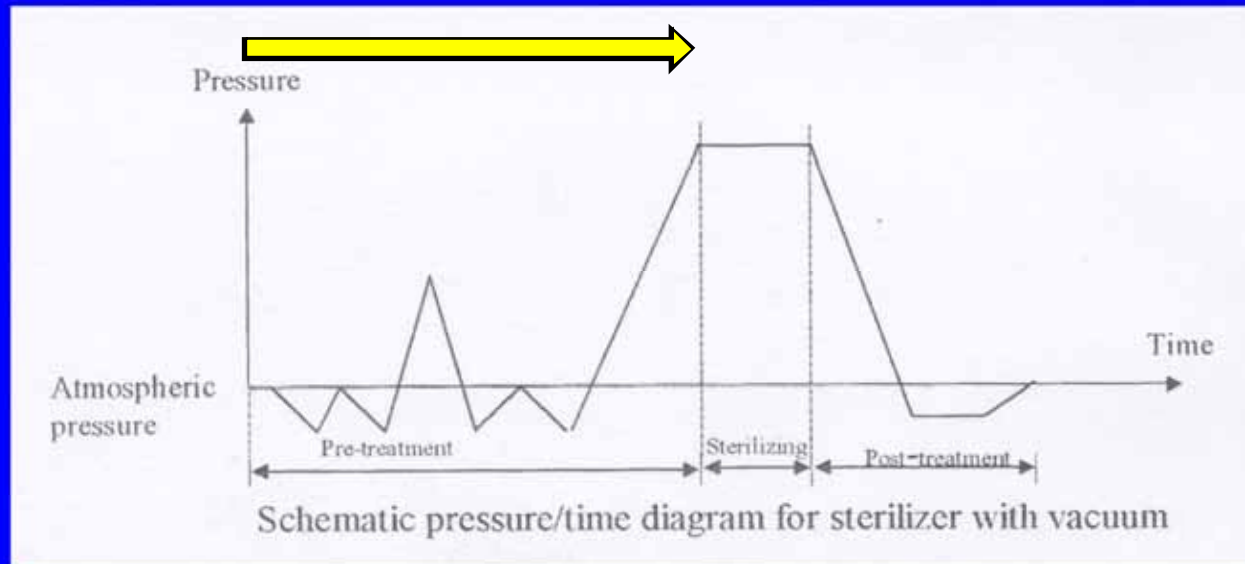
Menu



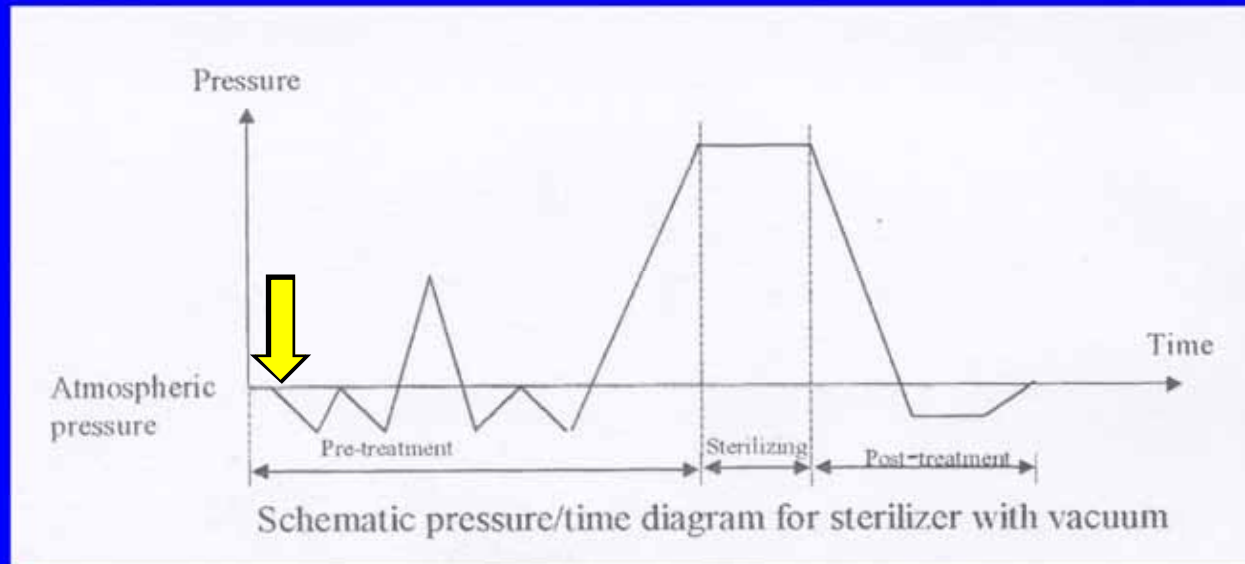
Pre-treatment Stage

- Steam is pumped into the Chamber
- A Vacuum is pulled
- Steam is pumped in
- A Vacuum is pulled
- This is repeated 4 times

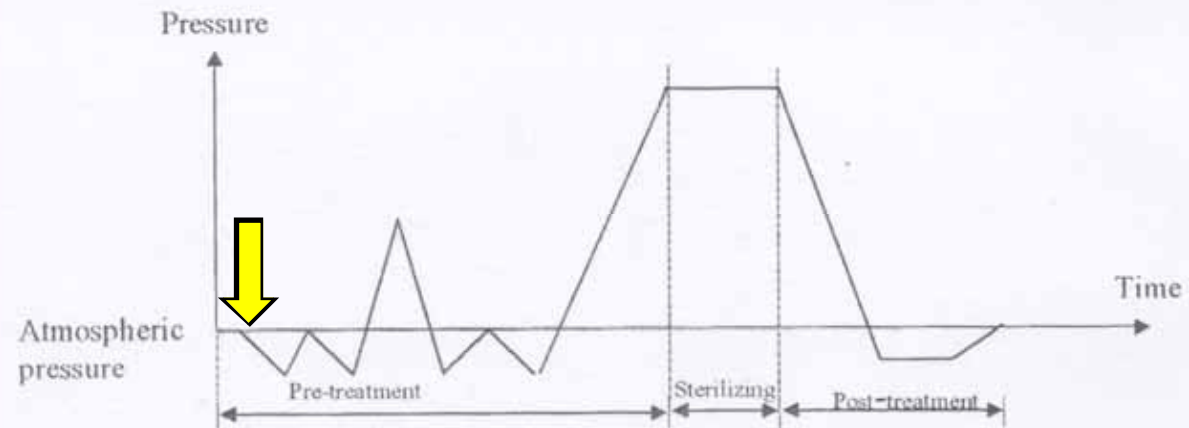
Pre-treatment Stage



Steam is pumped into the Chamber

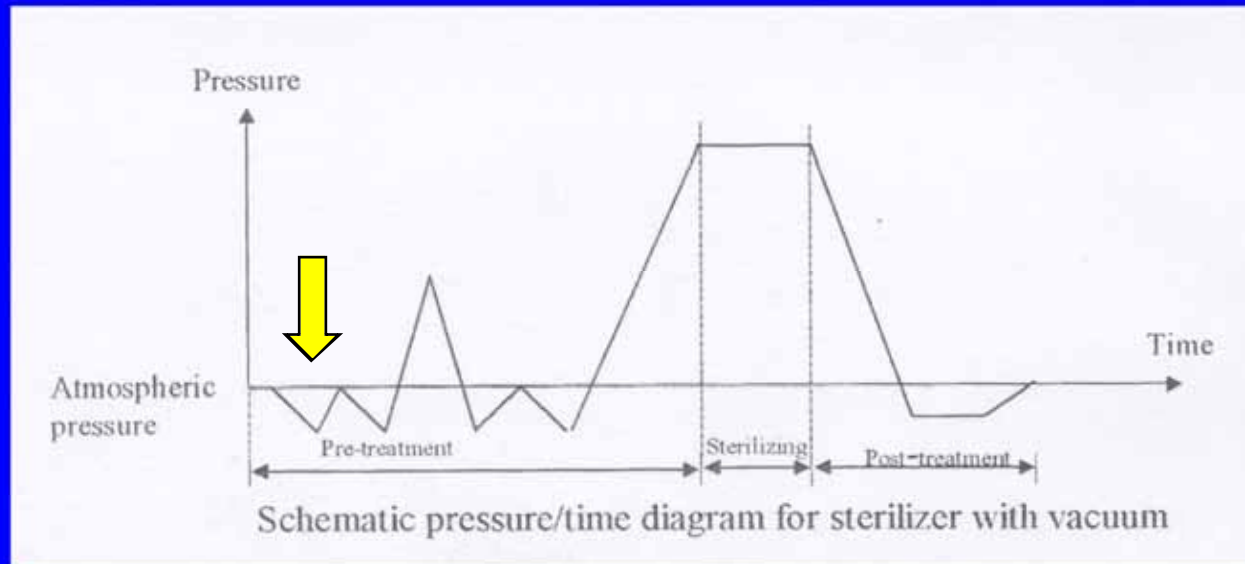


A Vacuum is pulled

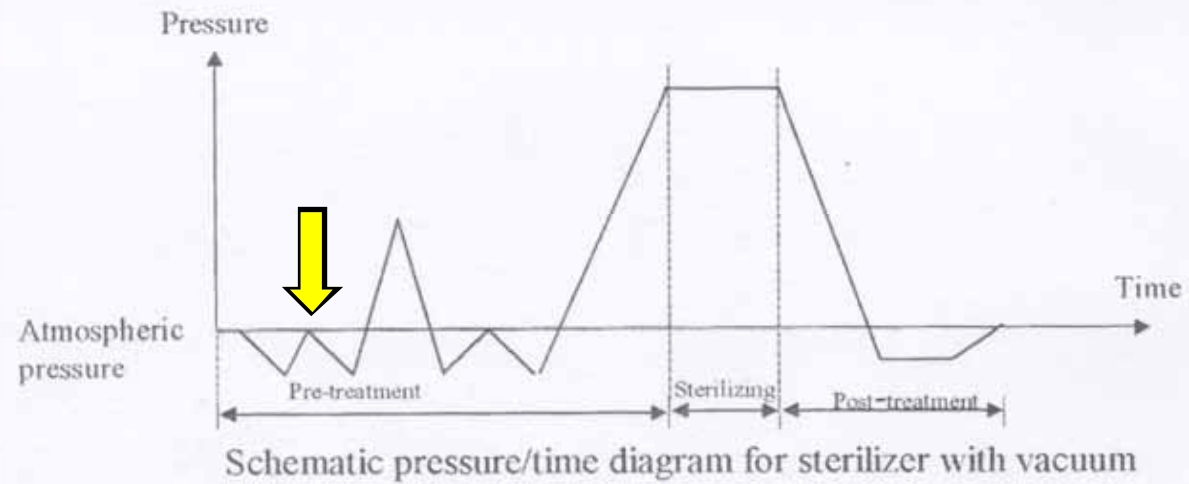


Schematic pressure/time diagram for sterilizer with vacuum

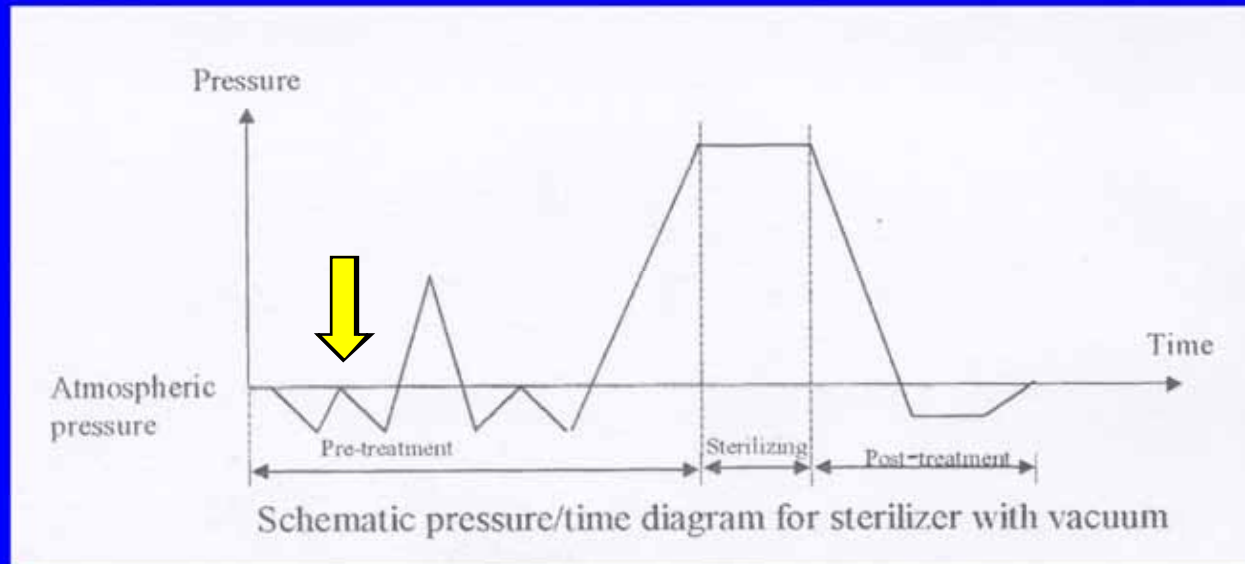
Steam is pumped into the Chamber



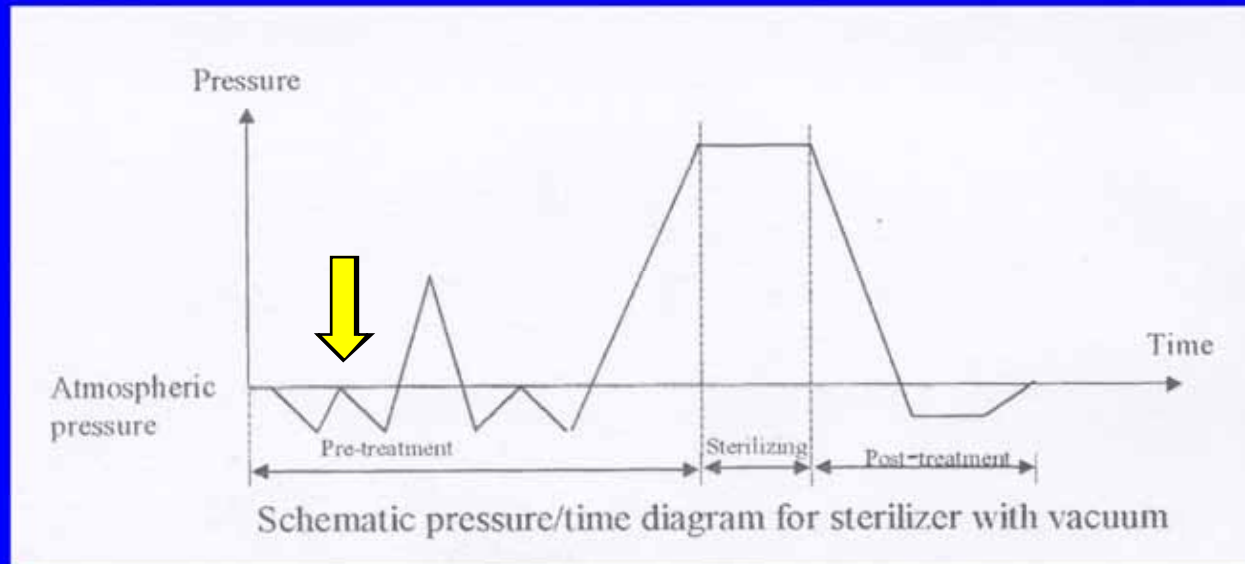
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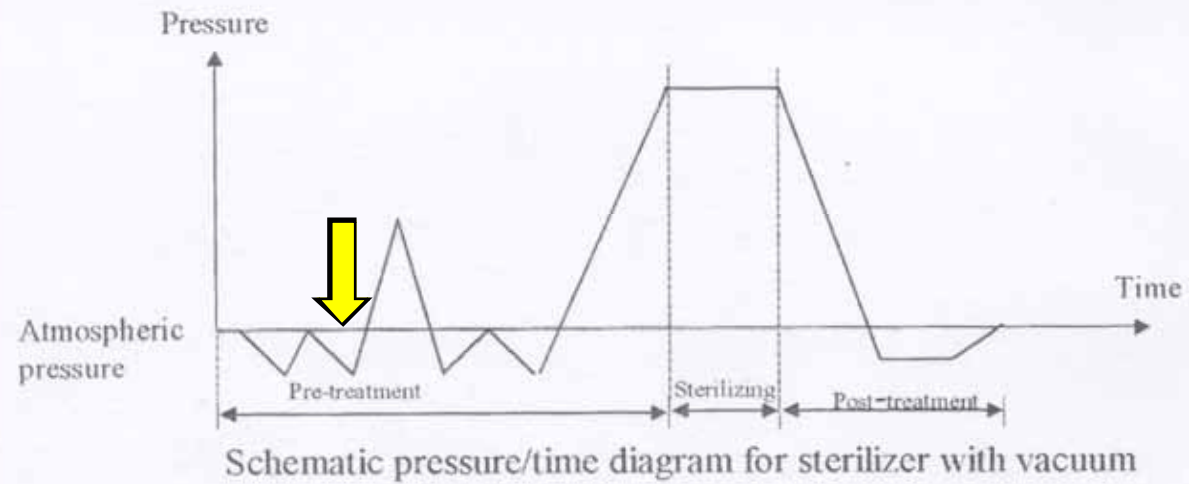
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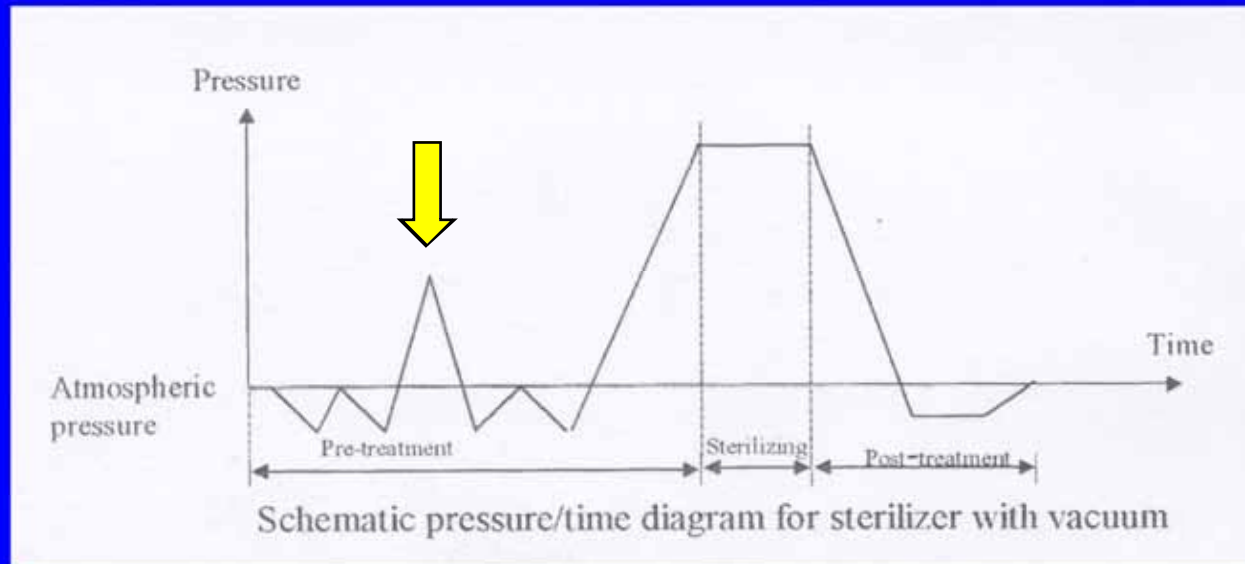
Steam is pumped into the Chamber



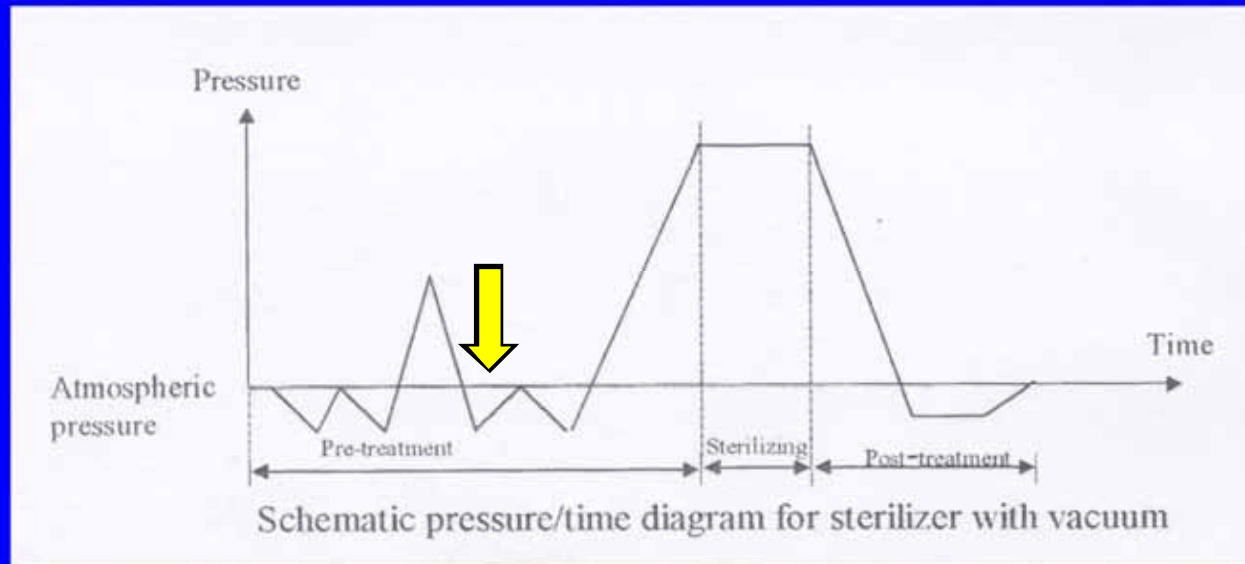
A Vacuum is pulled



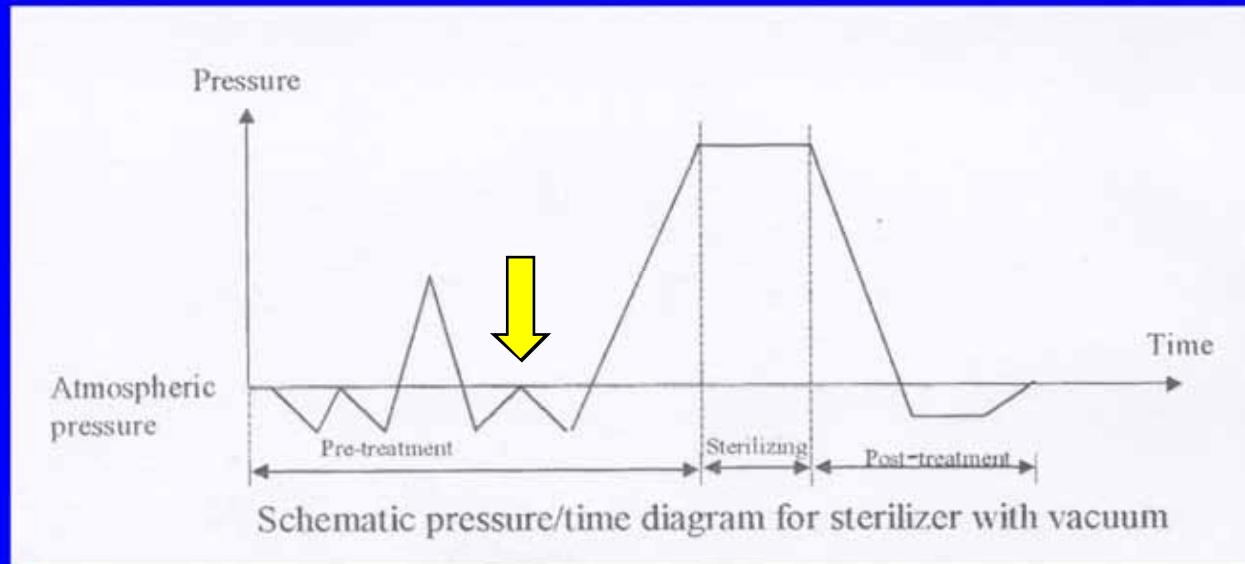
Steam is pumped into the Chamber



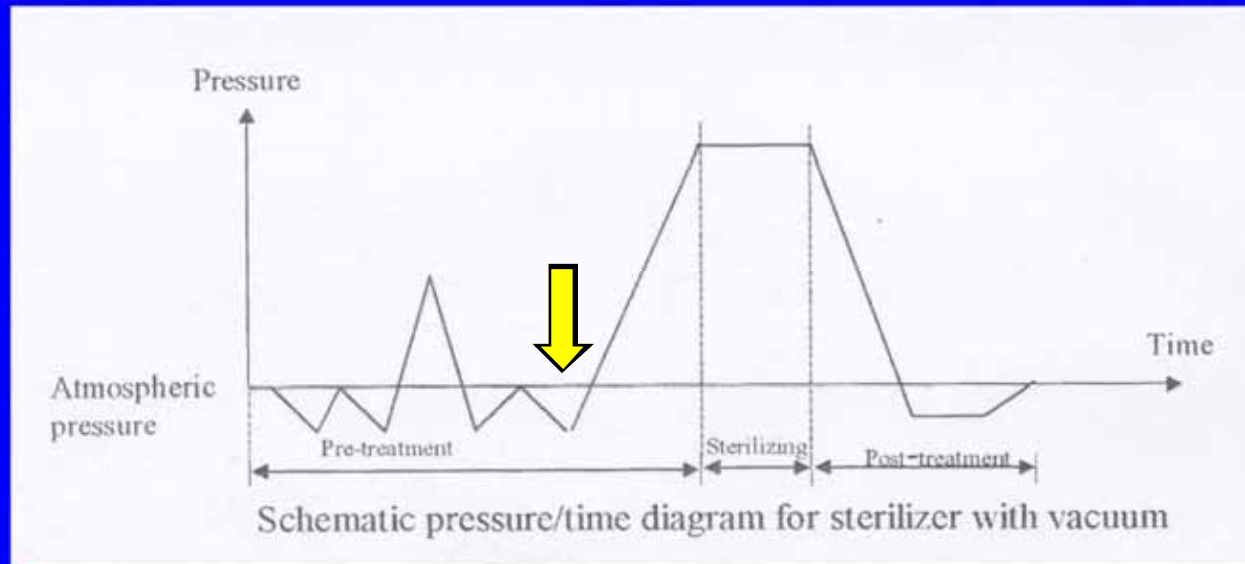
Steam is pumped into the Chamber



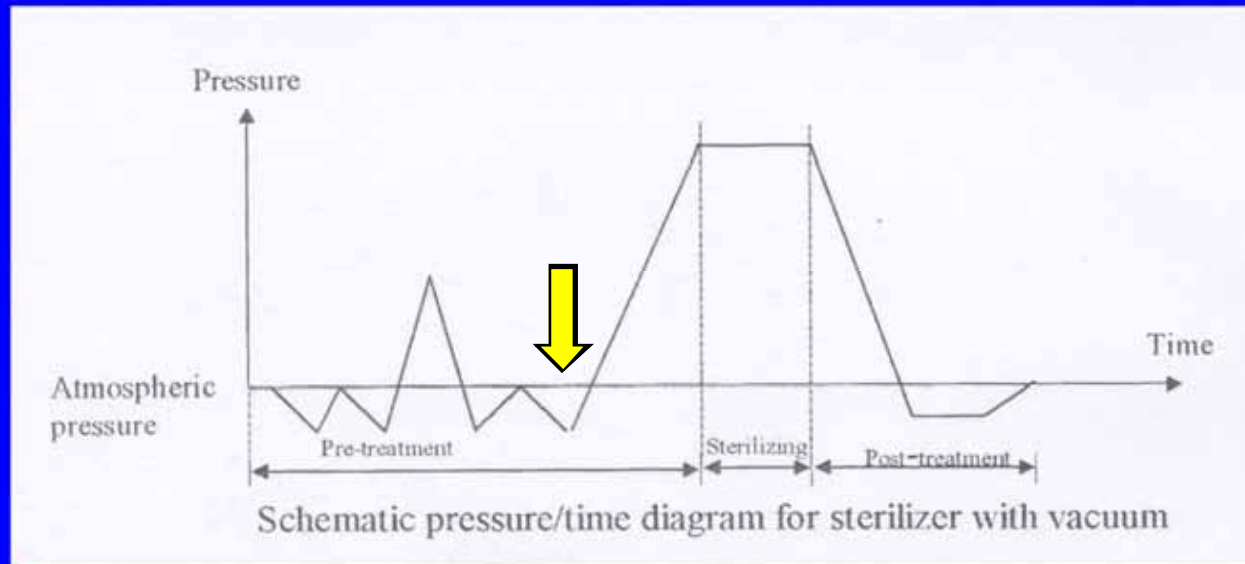
A Vacuum is pulled



Steam is pumped into the Chamber



A Vacuum is pulled



Sterilizing Stage

- Steam is pumped in
- Heated to the Required Temperature and Pressure
- Sterilized for a Minimum of 3 minutes

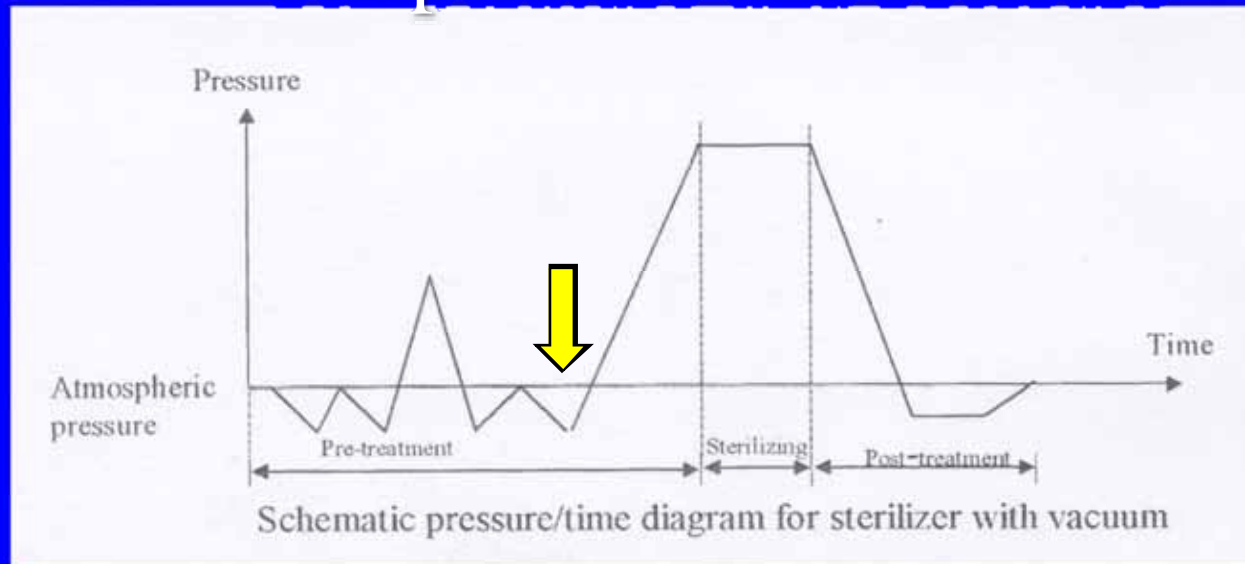
Sterilizing Stage

- Maximum 5minutes
- Steam is ejected

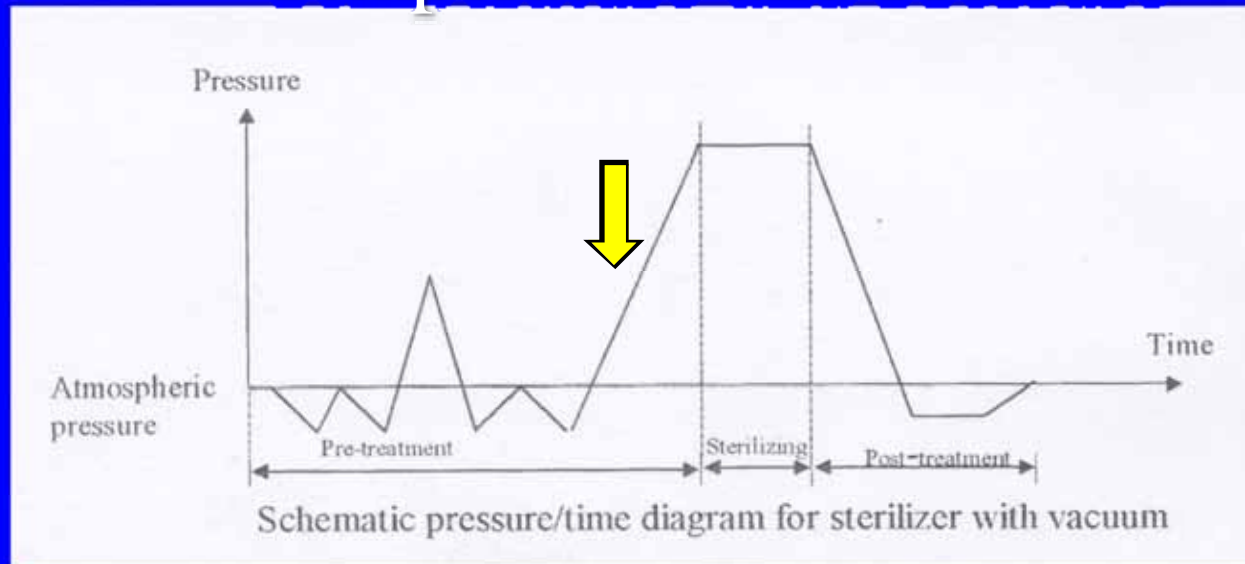
Menu



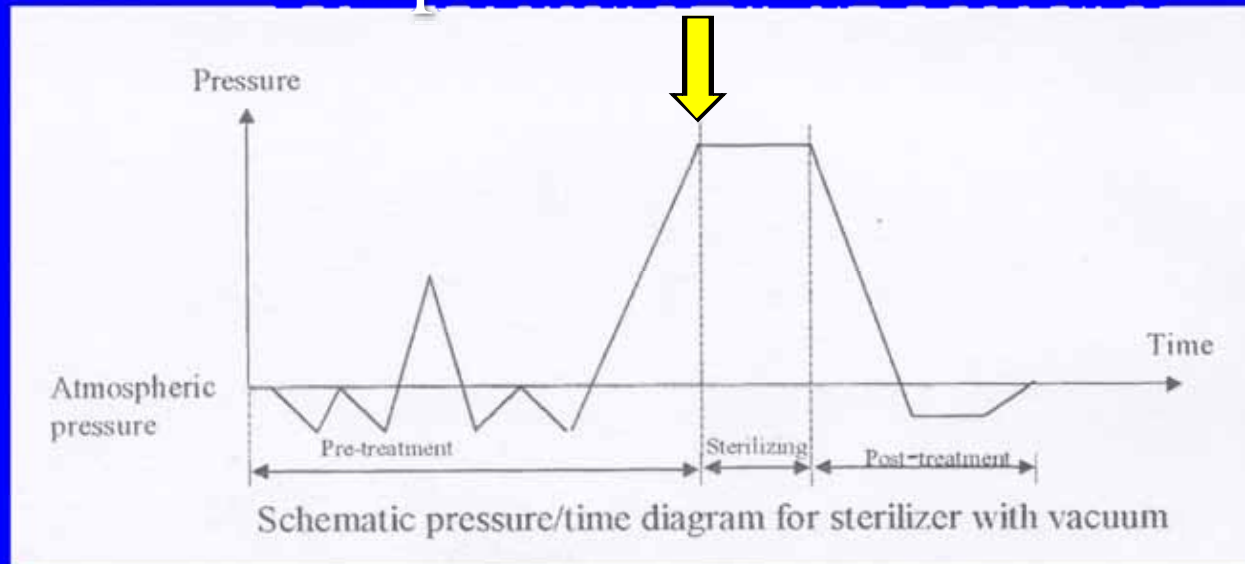
Heated to the Required Temperature and Pressure



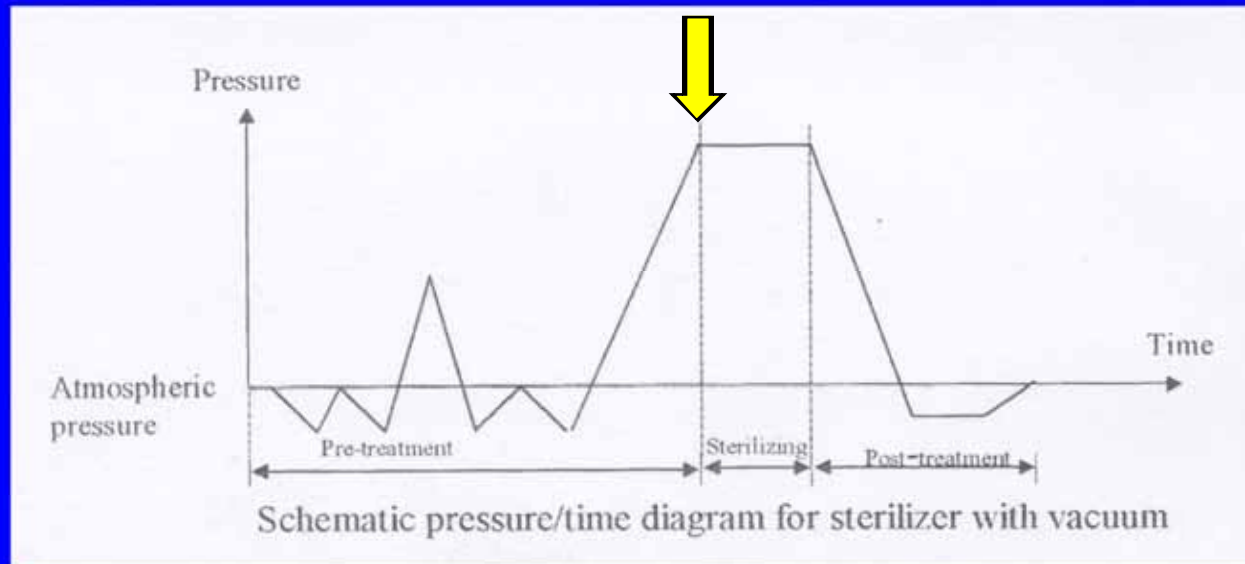
Heated to the Required Temperature and Pressure



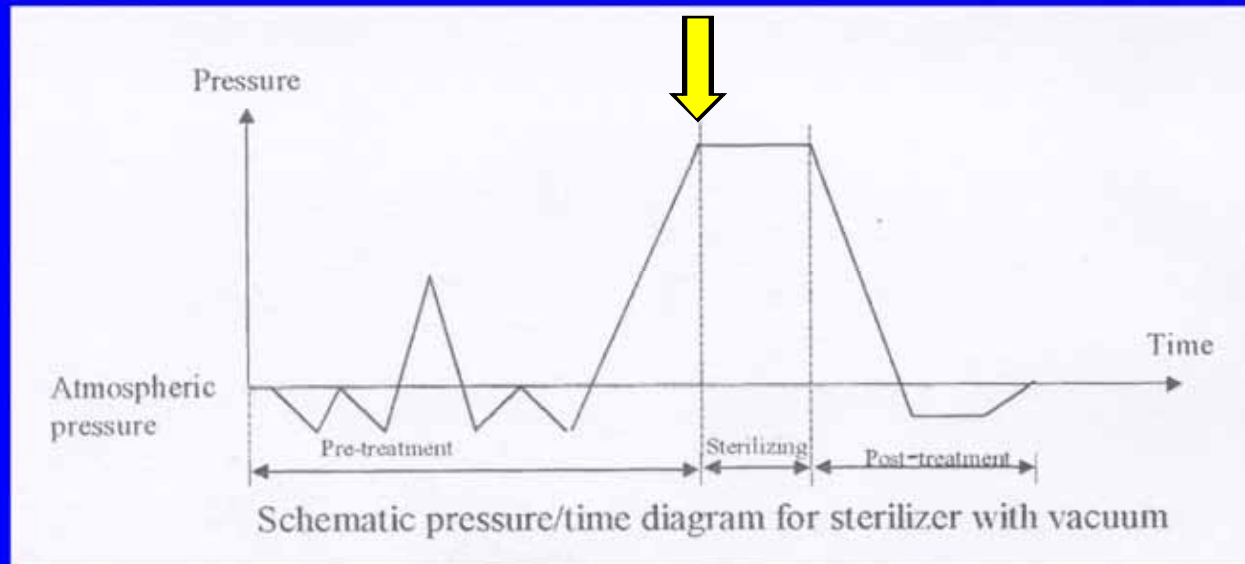
Heated to the Required Temperature and Pressure



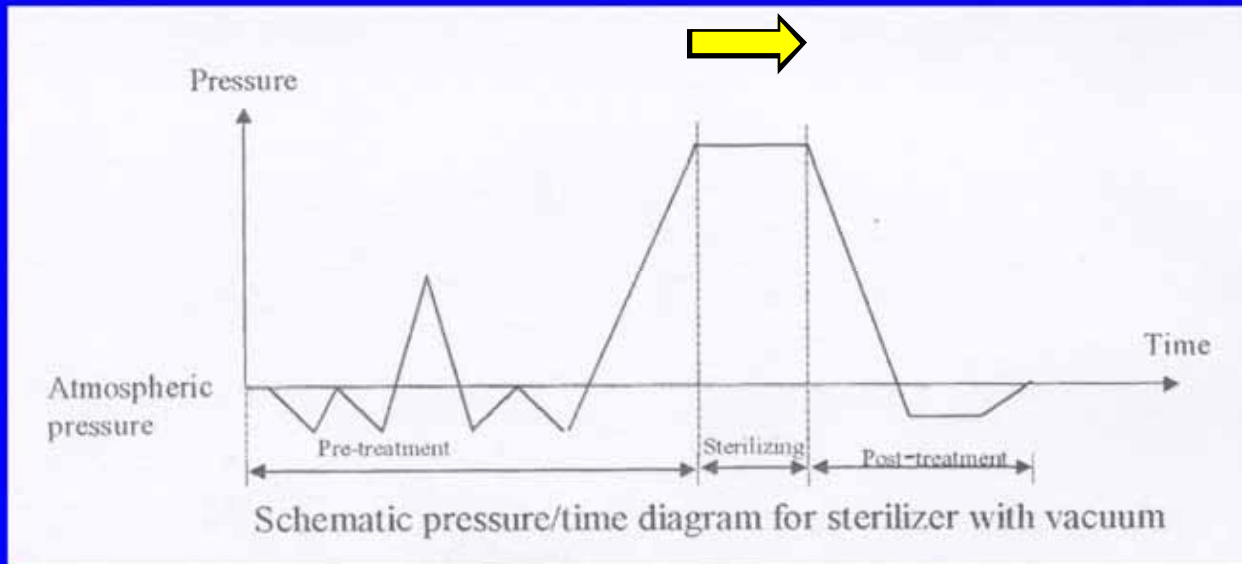
134-137 degrees



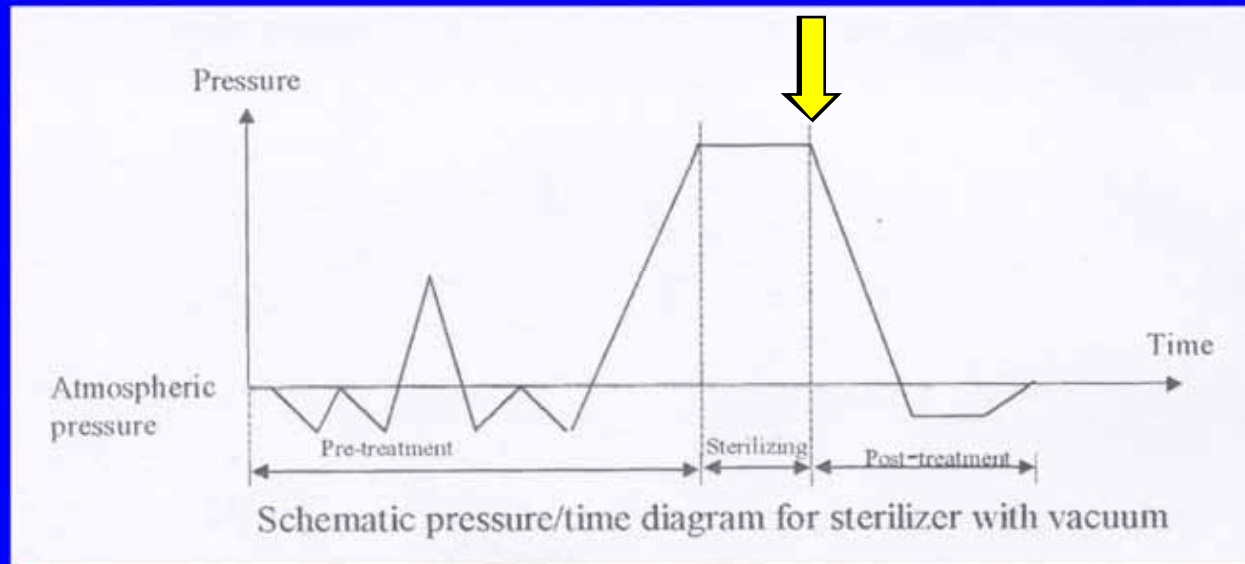
3 to 5 minutes



Sterilizing Stage



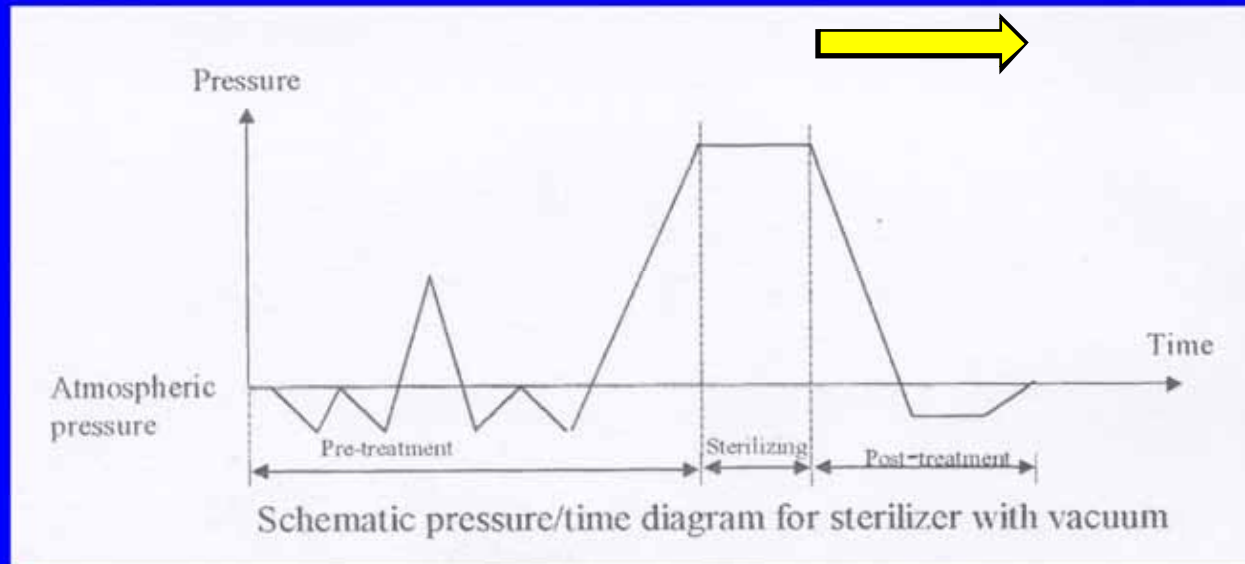
3 to 5 minutes



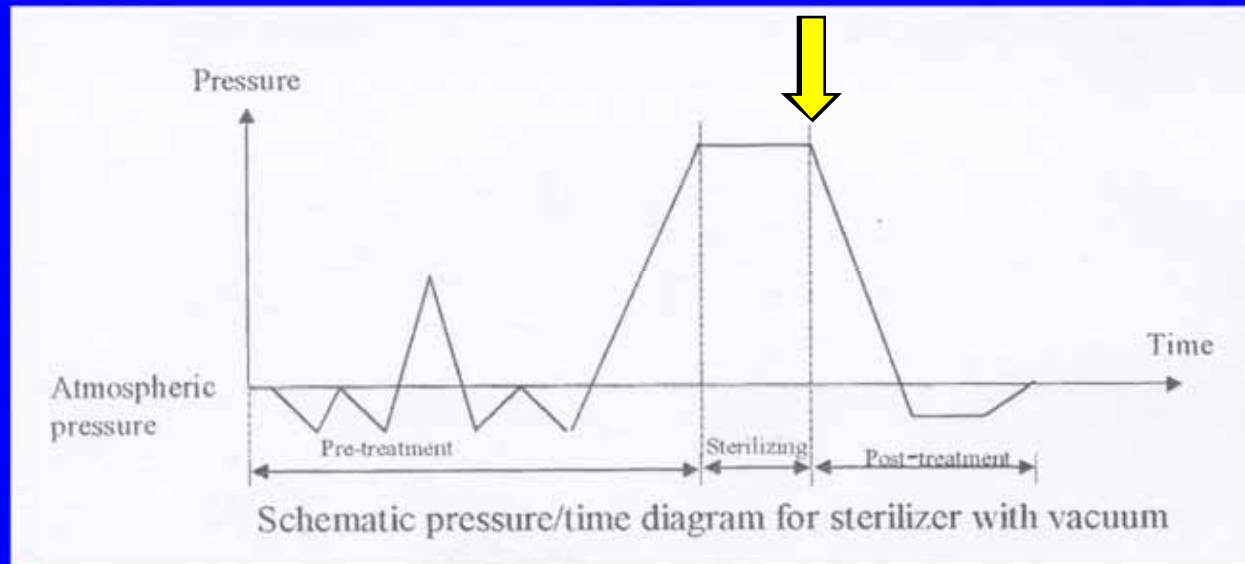
Post-treatment Phase

- A Vacuum is pulled in a Heated Chamber removing Moisture to dry the Contents
- Air then enters through a Bacterial Filter
- as the Chamber rises to Atmospheric pressure

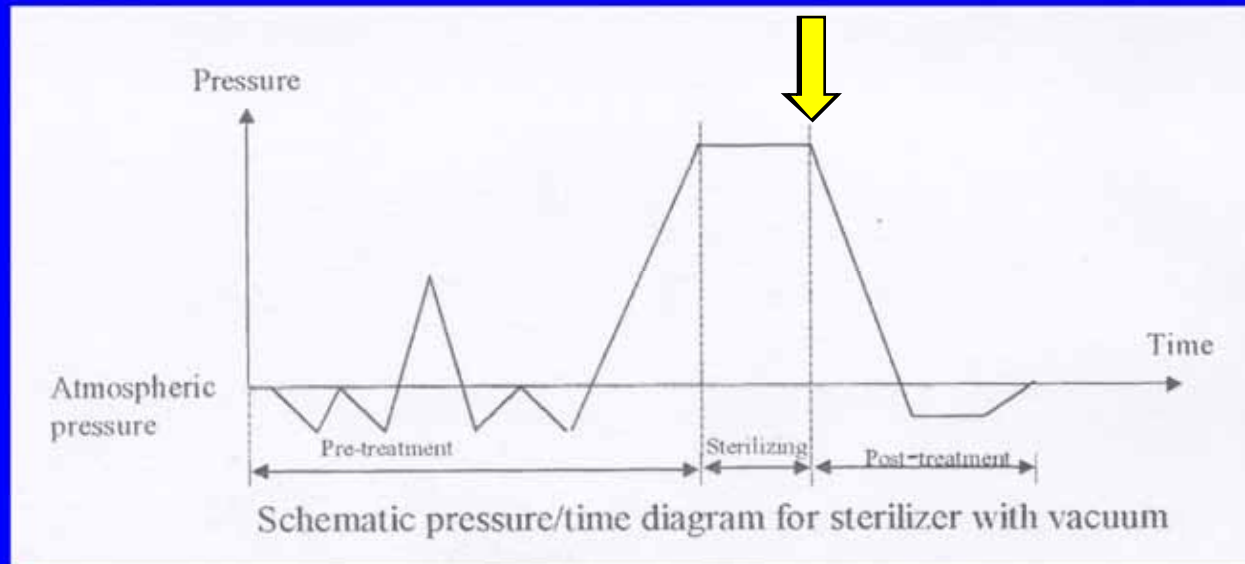
Post-treatment Stage



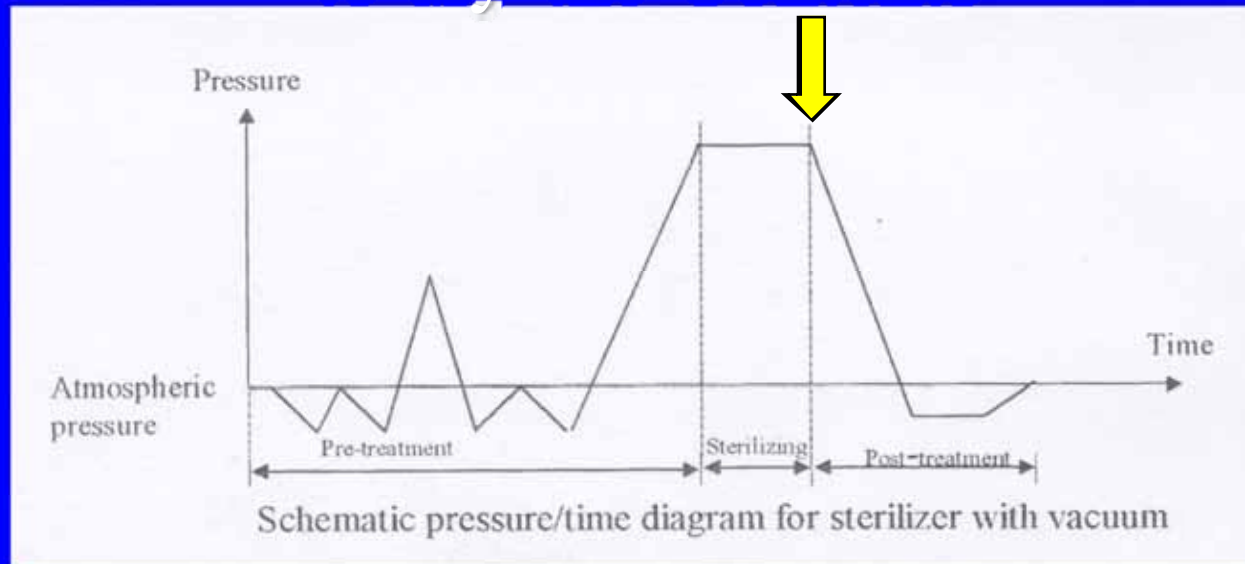
Steam is ejected



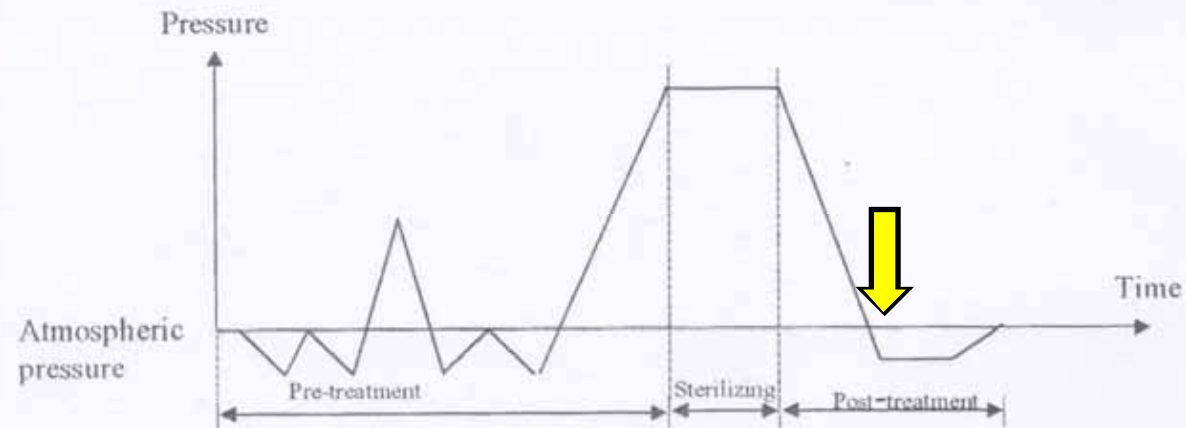
A Vacuum is pulled



Removing Moisture to dry the Contents

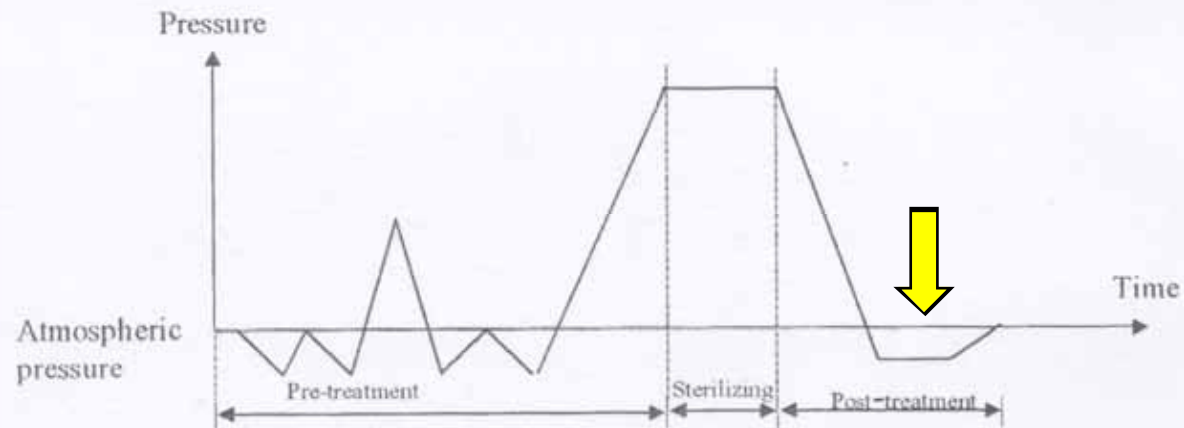


A Vacuum is pulled



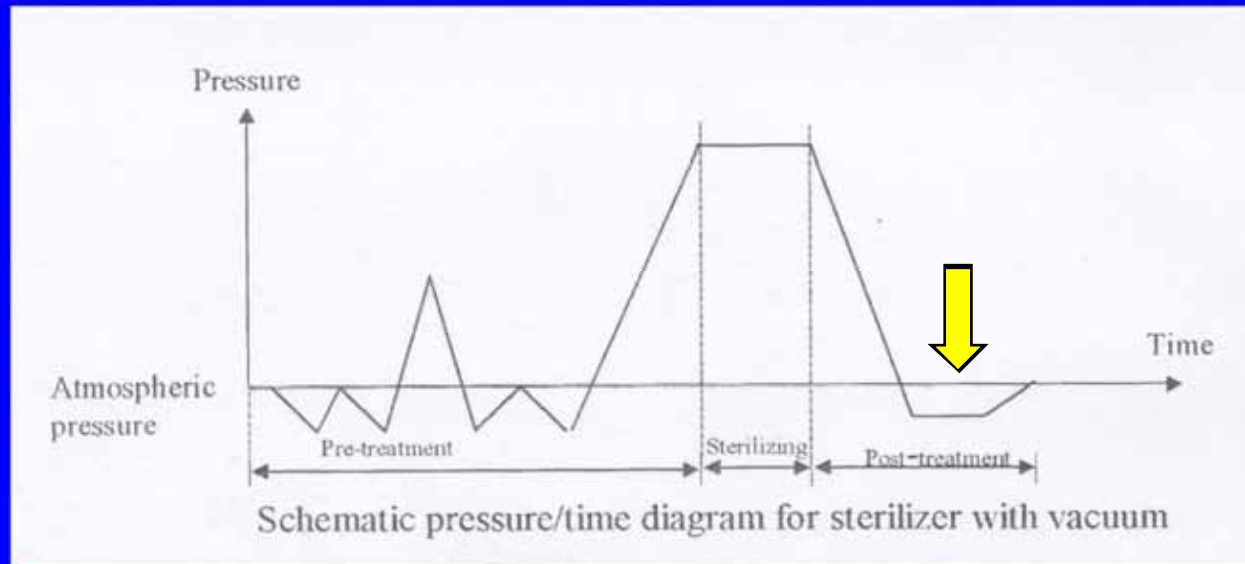
Schematic pressure/time diagram for sterilizer with vacuum

Boiling Point is Lowered due to the Vacuum

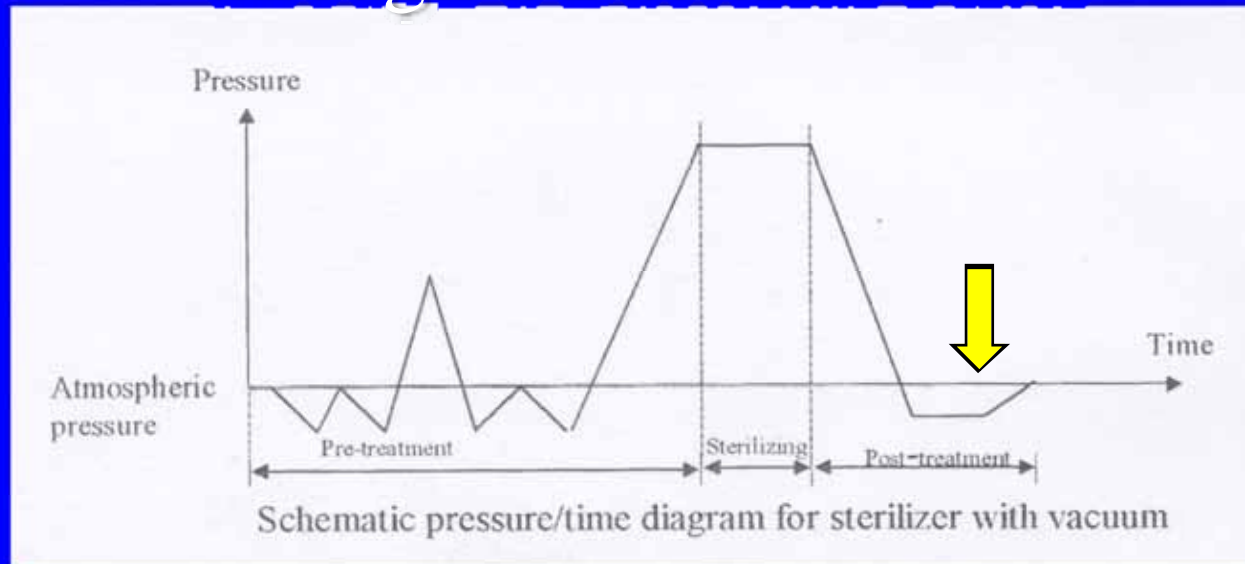


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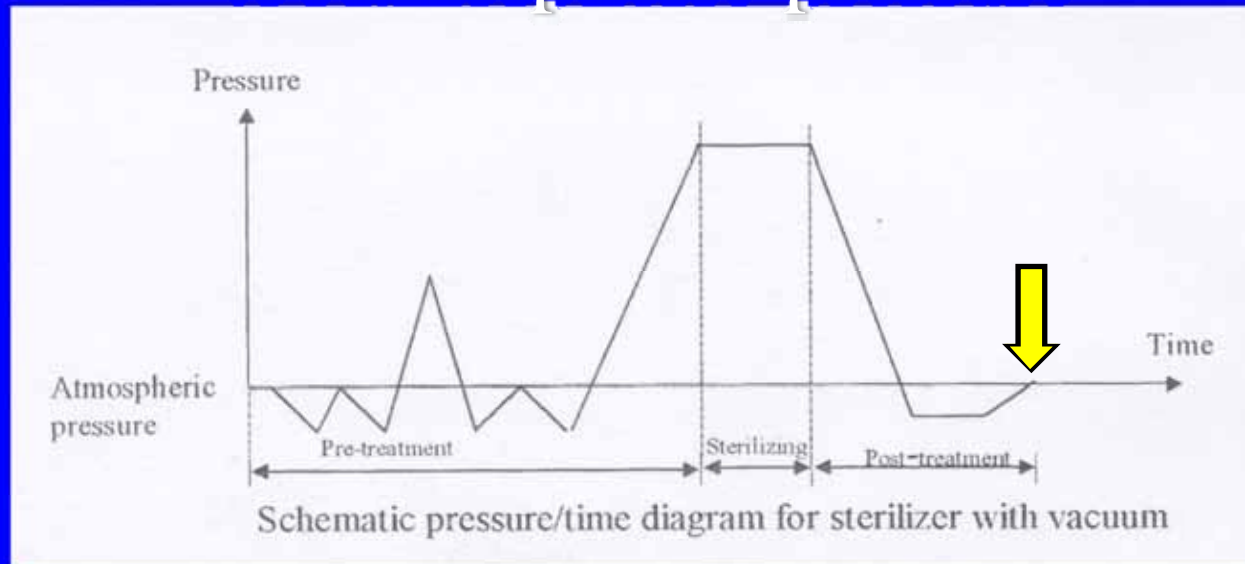
Water evaporates and is expelled



Air then enters through a Bacterial Filter



Chamber rises to Atmospheric pressure



There are Various Cycles
for Different Purposes

The Parameters of the Various Cycle

The Parameters of the Various Cycle

- The Sterilizing Temperature in (Degrees Centigrade)
- The Pressure (kPa)
- The Sterilizing Time (Minutes)

Menu



The Parameters of the Various Cycle

- The Total Empty Chamber Duration (Minutes)
- The Duration for Maximum Load (Minutes)

Menu



Sterilizing Cycles Available

Menu



The Flash Cycle

- Sterilizing Temperature134 degrees
- Pressure104 kPa
- Sterilizing Time3.5 min
- Total Empty Chamber Duration.....7 min
- Duration for Maximum Load9 min

Menu



kPA

Kilo Pascals

Menu



The Flash Cycle

For Fast Sterilization of Items
without Enclosed Spaces

Menu



121 Degree Wrapped Cycle

- Sterilizing Temperature121 degrees
- Pressure104 kPa
- Sterilizing Time20 min
- Total Empty Chamber Duration...31 min
- Duration for Maximum Load.....36 min

Menu



121 Degree Wrapped Cycle

For Delicate Wrapped Items

Menu



134 Degree Wrapped Cycle

- Sterilizing Temperature134 degrees
- Pressure203 kPa
- Sterilizing Time5 min
- Total Empty Chamber Duration ..18 min
- Duration for Maximum Load24 min

Menu



134 Degree Wrapped Cycle

For Less Delicate Wrapped Items

Menu



134 Degree Textile Cycle

- Sterilizing Temperature134 degrees
- Pressure203 kPa
- Sterilizing Time5 min
- Total Empty Chamber Duration ..23 min
- Duration for Maximum Load29 min

Menu



134 Degree Textile Cycle

For All Cloth Items and Gauze

Menu



Parameter	Process			
	121 Wrapped	134 Flash	134 Wrapped	134 Textiles
Temperature min °C	121	134	134	134
Pressure min kPa	104	203	203	203
Sterilizing time minutes	20	3.5	5	5
Total time empty chamber (approx) minutes	31	7	18	23
Total time max. load (approx) minutes	36	9	24	29

Servicing of Vacuum Autoclaves

- 4 Services a Year
- 1 Full Day Service
- 3 Half Day Services

Menu



Testing Autoclave Cycles

Menu



A Bowie Dick Test Kit



Menu



The Paper Sheets



Menu



The Layers of Paper Sheets



Menu



The Original Test Sheet



Menu



After Vacuum Autoclaving



Menu



After Non-Vacuum Autoclaving



Menu



Principle of Sterilizing

Any Item with a Hole in it
and Anything containing an Air
Pockets

will only be Sterilized in a
Vacuum Autoclave

Menu



Items requiring Vacuum Autoclaving

- Bagged Items
- Wrapped Items

Menu



Items requiring Vacuum Autoclaving

- Handpieces
- Artery Forceps
- Needle Holders
- Internally Irrigated Implant
Drills

A Wire being passed through
the Internal Irrigations Tube
of an Implant Drill



Menu



Items requiring Vacuum Autoclaving

- Cotton Items
- Gauze
- Cloth Items

Menu



The End

Menu

