



Western Surgical®

FRONT LODADING FLASH AUTOCLAVE

USER'S MANUAL



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Thank you for purchasing an Dnclave Autoclave - A Dynamic International Product.

Our equipment is developed to perform the important task of Sterilization, In order to assure you the highest quality and safety we dedicate great amount of time on this product development.

We are confident you will be 100% satisfied with our product.

This manual was designed for you to get best possible results from your new Autoclave.

In case a technical problem with the autoclave happens, Please contact your local authorised Dnclave dealer for service. Do not attempt yourself or through non-authorised personal to work on the machine because doing this it may void warranty.

Our Dealer Customer Service Center, will be glad to assist you.

DNCLAVE MISSION

Protect life through biosafety!

DNCLAVE QUALITY POLICY

To fulfil better our mission as an institution and meet the requests and the satisfactions our clients and celebrators as a sign of deep respect to the human being, as well as contributors with the society development.

Dnclave is committed to meet quality standards through continous and corrective improvements of the products and services by adopting preventable and corrective measures in industrial, trading and administrative fields.

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INTRODUCTION

This manual objective is to familiarize clients with the operating procedure for the Dynamic autoclave, Dnclave 12 and 21 liters. It also offers to the operator some important information that will allow him/her to obtain the best results in any step of the sterilization -including drying-process. recommended procedure will extend the equipment's life span.

Most of the biosafety information included in this manual was based on publication from reliable professors. The objective is provide you with information that result in safety and correct sterilization.

It is also important to know some of the aspects that may void warranty such as negligence, misuse, non-authorized repairs, etc.

For you reference, a warranty certificate is included at the end of this manual. Please spare some time to end it. Thank you.

We have these autoclaves in two standards (Classes)

1) Autoclave with thermal vacuum (Purging) / Wet Sterilization / Dry cycle.

2) Autoclave with cold vacuum cycle / Wet Sterilization / Vacuum /

Dry - Vacuum - Dry - Vacuum Cycle

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WARNING : READ ALL THE INSTRUCTION OF THIS MANUAL, BEFORE USING YOUR DNCLAVE AUTOCLAVE - THE INCORRECT USE MAY RESULT IJN STERILIZATION FAILURE OR ACCIDENTS

WARNING : Equipment For Sterilization - READ THIS DYNAMIC DNCLAVE Autoclave 12/21 - Instruction Manual

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IMPORTANT ADVICE ON SAFETY

Autoclave work under pressure and high temperature, therefore they must be handled by skilled and trained operators who should be well informed how to properly operate the autoclave. It is fundamental that each operator read the complete instruction prior the use of DNCLAVE Autoclave,

TO USE YOUR DNCLAVE AUTOCLAVE SOME SAFETY STEPS MUST BE FOLLOWED :

- ➡ **Never** touch External steam discharge drain/exit (pic. 01). Right after a sterilization, do not touch the internal surface of autoclave chamber or any hot surface. **Severe burn may happen if hot areas of autoclave are touched during the product use of cooling period.** Dnclave Company or its Distributors or dealers will not be liable for injuries or damage due incorrect product utilization.
- ➡ **Do not** allow patients, children or any non-authorized person (s) to get close to this Autoclave during its use.
- ➡ After releasing the door lock, the door must open easily. **Make sure the depressurization is completed prior to the door opening** : the Pressure Gauge must indicate "0" (Zero) pressure. Never force to open the Autoclave.
- ➡ Dnclave Autoclave have a power control operated by temperature sensor it is normal to observe some steam when opening the door at the beginning of drying cycle.
- ➡ **If a self-activation** of one of the safety mechanism occurs (sudden escape of steam)-normally caused by obstruction on the internal hole of the steam exit inside the chamber or due to obstruction of pressure control valve, await for the total depressurization. Only after that, turn the autoclave off. Do not panic : the high pitch noise is the worse it will happen. Call an authorized autoclave dealer to check your product.
- ➡ **Never** use regular plastic tubing connected to the steam discharge exit. We recommend the use of tubing graded for high temperature or copper pipe. Consult "*Installation Instruction*", Page 06
- ➡ **We recommend** reading this manual until complete understanding. Use research source.

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INSTALLATION INSTRUCTION

Dclave autoclave is a simple to install. Verify if the electric power line matches the specification show bellow consulting a reliable electrician or a Dnclave authorised dealer. Consult "*Limited Warranty Terms*", Page 22.

INSTALLATION

The autoclave must ne installed on a leveled, firm an flat face. We recommend a surface maximum 80 centimeters from the floor. You may want some extra space for handling materials.

ELECTRICAL INSTALLATION

- ➡ Check the identification affixed on the back of the autoclave (pic. 01) Make sure that the electric voltage is the correct. Warning Not using correct voltage and amperage cause damage malfunction to your Autoclave. The autoclave company, Its Distributors or Dealers will not be liable for damage caused by improper installation and/or inadequate voltage/apmerage.
- ➡ The plug must be same type of those used in computers(Pic. 02) Connect phase/neutral or phase of lateral pins and ground in the central pin : **Do not connect the neutral in the ground pin.**
- ➡ **Warning!** For the proper functioning of the Autoclave, the electric voltage of the power line shall be stable, with no oscillation. Call up a reliable electrician to check the following: guage wiring; electrical ampere; the existence of an exclusive breaker for the ping where will the autoclave be installed. Even though every specification are followed, though the power line appears to be oscilating, contact your local Distributor or Dealer for adjustments. Use an autoclave stabilizer if needed.
- ➡ Never use extension.



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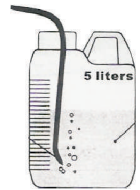
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1. HYDRAULIC INSTALLATION

Using a high temperature resistant tubing or copper pipe, 5/16 inch diameter, (sample of recommended tubing supplied), connect it in the External steam drain/exit (pic. 01) located at the back part of the Autoclave. The other extremity to be placed inside a container with water (pic. 03). The water will serve as a "buffer" when steam discharge occurs eliminating noise and risk of burns. The reservoir must resist temperature of 80 C. Other option, is to connecto the tubing direct to a place where the steam heat may melt it, causing obstruction of steam drainge line. For the same reason, the extermity of the tubing or pipe must be free of any obstruction and have a cut in "V" form in the extermity.



2. DNCLAVE AUTOCLAVE FEATURES

►► Pressure /Temperature Gauge

A device utilized to monitor the autoclave pressure and temperature (pic 04). Its graduation ranges from 0 (zero) to 4 (Four) kgf/cm of pressure.

►► Door Gakset

It fits in door has the function of perfectly seal the space between door and chamber, avoiding steam leakage on the area. It also serves as a safe device in case all other safe devices fail (pic. 05). consult "Preventive Maintenance" page 19.

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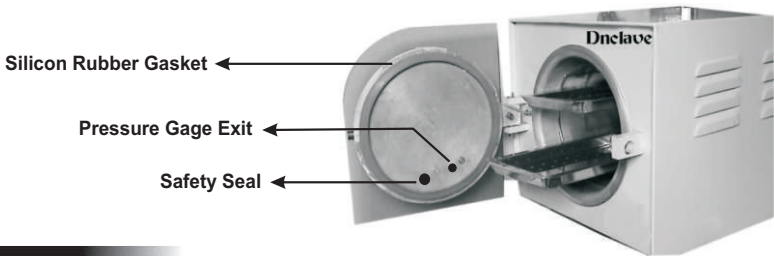
3. DOOR KNOB AND LOCK MECHANISM

Located at frontal part of Autoclave. It is used to close the door and locked sterilization cycle beginning. (pic. 06) see pic. 12.



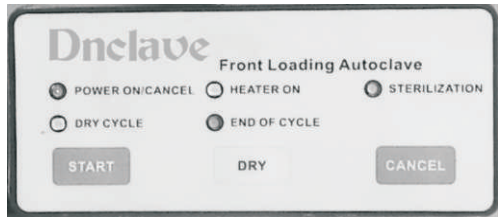
4. SAFETY SEAL AND NON VACUUM VALUE

Safety seal will release pressure from the chamber in case steam line obstruction occurs and pressure build up beyond safety level. Non-Vacuum valve has same function plus relieving negative pressure from the chamber. They are located at the internal side of the door (pic. 07)



5. PANEL

It is located in the door together with the pressure gauge and touch pad controls for autoclave operation (pic.08)



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6. EXTERNAL STEAM DRAIN/EXIT

Hole located in the posterior part of the Autoclave. Consult "*Installation Instruction*" (Pic.01)

7. PRESSURE CONTROL VALUE (SOLENOID VALUE)

Internal component of the equipment utilized for pressure control and maintenance.

8. TRAYS AND TRAY'S SUPPORT

Support and Trays serve to keep materials to be sterilized out of contact with lateral values of the chamber, from bottom and consequently without any contact with water.

9. MEASURING CUP

Used to measure the quality of **Distilled water** needed to the sterilization process (pic. 10)



SAFETY MECHANISMS

Dnclave 12/21 autoclave provide the following safety mechanisms.

1. **Safety Seal and Non-Vacuum Value** - Consult "Dnclave Autoclave Features" (pic.07)
2. **Door Gasket** - Consult "Dnclave Autoclave Features" (pic.05)

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3. Pressure Control Value (Solenoid Value) - Internal component of the equipment. used for pressure control and maintenance.

4. Internal Fuze

INTERNAL FUSE

VITALE 12L

220V - 06A

VITALE 21L

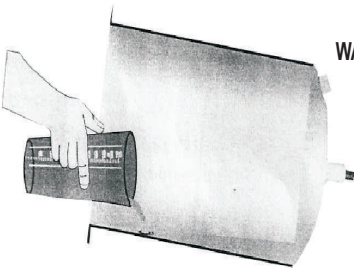
220V - 08A

5. Thermostat - internal device of the equipment.

6. Electronic system for power control - internal component of the equipment.

OPERATING YOUR DNCLAVE AUTOCLAVE

- Prior to its use, make sure chamber is clean and internal hole for steam discharge is not clogged. Also, Check External steam drain/exit tube/pipe is not clogged
- Pour distilled water. Load the autoclave with materials to be sterilized.



WARNING! USE ONLY DISTILLED WATER IN THE STERILIZED PROCESS.

WATER QUANTITY CHART

Dnclave 12L

150 ml

Dnclave 21L

250 ml

- Close the autoclave door' slide the red lever completely to the right hand side followed by pushing lever down until door is locked on the correct position. Double check door is perfectly locked. To open the Autoclave proceed the reverse way.

WARNING! Not observing these procedures may damage the autoclave functioning, besides eventually causing a sudden escape of the door gasket from th lid.

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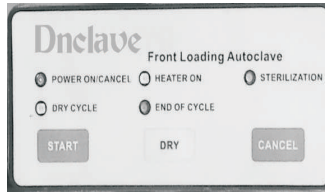
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d. Press **Start** and automatically the Autoclave will start the heating process making a beep sound and indicative/drying led will turn on (pic. 13) The heating time varies from 8 to 17 minutes.



Put the instruments in the tray

Close the door of Enclave

Switch on the main switch (Provided on the back)

The LED on the door will be on and

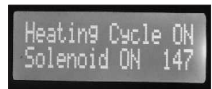
“DNCLAVE PRESS START” message will be displayed on the LCD panel.

Press start button provided on key board . The heater will be on. The green LED shows that the heater is on. On LCD Screen the message **“Heating Cycle On. Solenoid on”** will be displayed on it. The Solenoid valve will remain open for 180 seconds. The counter will be displayed on the LCD . It will allow the air present inside the chamber to go out .

NOTE : If the door is not properly locked a message **“ERROR DOOR OPEN CLODE ENCLAVE DOOR”** will be flashed on the LCD panel. In this case, close the door properly and Press Cancel Button.

The cycle mentioned above will start. The timer on the LCD Screen will go to 180 Seconds in reverse. After that Solenoid Switch will be switched off and the pressure and temperature inside will start increasing. The message **“Heating Cycle On Temperature ----”** will be displayed on the panel. The temperature inside the chamber will be displayed

When the temperature inside the chamber reaches 122 C, the heater will be switched off and the sterilization cycle will start. On the LCD Panel **“STERILIZATION ON Wait for 16 mints”** will be displayed. The Temperature will be displayed on the LCD screen. The blue LED for sterilization will glow. The heater will be on and off to maintain the temperature in the chamber.



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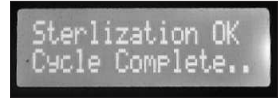
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After 16 minutes, the sterilization LED will be switched off .
On LCD : **“Sterilization OK. Cycle complete”** message will come.



The Buzzer will give you beep sound 4-5 times and dry cycle LED will blink. After the message **“Dry Cycle Pending Open Clave Door”** Will Flash On LCD.

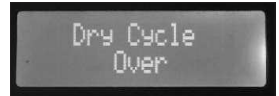


At that stage if you do not want Dry Cycle. You can press the cancel button and it will come to starting point . You can take out the instruments.

For Dry Cycle, open the clave door and it will automatically switch over to Dry Cycle. On LCD **“Dry Cycle Started for 30 minutes”** will be displayed on the screen. The heater will be switched on and off and a temperature of 135 C will be maintained.



After half an hour a message **“Dry Cycle Over”** will be displayed. It will also give you a buzzer sound. And end of cycle LED will be on. This message will be there for 1 minute.



After this the message **“ End of cycle Press Cancel “** will be displayed on the panel.



Press the Cancel button. The message on the LCD **“DNCLAVE PRESS START”** will flash. Take out the instruments from the chamber.

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RECOMMENDATIONS TO ACCOMMODATE AND DRYING MATERIAL

- 1: The materials to be autoclaved must be able to support 135°C of heat.
- 2: Gauze and cotton must be wrapped in individual portion for each patient.
- 3: Porous material should not be sterilized together with instruments.
- 4: Metallic instruments must be dry and clean according to the Technical recommendations, in order to be packed in different sets depending on their utilization.
- 5: Use always correct / recommended packages to sterilization process.
- 6: In packages containing craft paper, the smooth side should remain outside, allowing proper separation among instruments.
- 7: The packages of the instrument should be disposed in parallel position distance 1 cm approx from each other. Do not exceed 75% capacity of the chamber capacity. Because steam is required for proper steam flow.
- 8: Material mainly fabrics and plastic should not touch the internal walls of the of the autoclave, doe to the risk of excessive heat which may cause material damage.
- 9: When removing material from Autoclave, do not put hot material in cold surface. Cover the surface with cotton cloth to avoid steam condensation inside the packets.

REASONS FOR FAILURE IN THE STERILIZATION PROCESS

1. Too dense and large packets.
2. Insufficient exposure to sterile agents.
3. Incorrect operation of the Autoclave
4. Lack of the routine of daily cleaning of the Autoclave.
5. Excess or shortage of Distilled water in the chamber.
6. Utilization more than 75% of the autoclave capacity.
7. Inappropriate packaging for the sterilization in the autoclave.

PREVENTIVE MAINTENANCE

1. Only use distilled water
2. Keep the Autoclave clean; wash it internally with distilled water, mild detergent and soft sponge and the pass a clean cloth (with no thread) wet in alcohol. This process must be carried out daily. Clean the Safety seals and the gasket periodically, using a clean cloth wet in alcohol. The use of Vaseline on the Gasket is recommended

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The Door won't open

POSSIBLE CAUSES

Pressure generated in the chamber by not Opening the door after depressurization. Although the Manometer does not indicate pressure

Negative pressure generated when the Cooling of the door closed. Though the Manometer does not indicate pressure

SOLUTIONS

Press the button Cancel and wait for the total Depressurization.

Remove the hose from container with water: In case the tubing pipe is connected to sewage System. Disconnect the tubing pipe from the Tap pipe and start the new cycle. When the autoclave indicates heating cancel the cycle, open the door, wait for it's total cooling, remove the pin non-vacuum, wash it and t, Clean the hole of the fitting par then replace it.

THE AUTOCLAVE TAKES TOO LONG TO REACH THE PRESSURE AND DOES NOT KEEP IT.

POSSIBLE CAUSES

Tension or electrical ampere smaller than That consumed by the Autoclave.

Leakage in Safety Seal.

Door lock is not properly closed in correct position

Leakage in the door gasket

Insufficient amount of water

Overloaded chamber

Deep scratches on the edge of the closing button of the chamber

SOLUTIONS

Consult an electrician for the adequate energy power.

Turn the autoclave off. Change the safety seal. Push the lever completely down the end

Preventive maintenance

Check the volume of water recommended. If necessary Increase the amount of water gradually.

Use up to 75% of chamber capacity, leaving spaces between the packages which should not be very large or very tight

Polish the edge of the chamber using water sand paper grade 400 until all scratches are removed

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THE PRESSURE OF THE AUTOCLAVE GOES UP EXCESSIVELY, ACTIVATING THE SAFETY MECHANISM

POSSIBLE CAUSES

Obstruction of the pressure control valve (solenoid valve)

Obstruction of steam discharge tubing/pipe on the back of autoclave

SOLUTIONS

Make the air pass through the holes of the internal and external exits of steam

Clear away all the dirt of the pipe located at external exit of steam.

THE AUTOCLAVE WON'T TURN ON

POSSIBLE CAUSES

Lack of electrical energy

Defective PC Board

Poor contact on the power cord

Blown Fuse

SOLUTIONS

Check if there is enough tension

Consult technical assistance

Check the fitting on the electric outlet

Replace the fuse.

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LIMITED WARRANTY TERM

- All products are warranted to be free from defected material and workmanship under normal use and service for a period of one year from the date of delivery to the buyer (proof of invoice required). The manufacturer's sole obligation under this warranty is to replace the defective part or to exchange the whole products whatever the manufacture judge appropriate.
- Manufacturer will not pay for labor, technician dislocation costs, etc. For parts of replacement or product exchange. As per manufacturer discretion, defective part or products workmanship under normal use service, for a period of one may have to be returned to its facility or kept on the dealer for future inspection. In the even warranty service must be performed to correct any defect; only the manufacturer's authorized distributors shall provide this service. The manufacturer and its distributors will not accept the return of goods unless authorized.
- No person , agent distributor or dealer is authorized to change , modify or extend the terms of this warranty or any manner, whatsoever.
- This warranty is void when failure or defect is caused by condition beyond the manufacturer's control, such as damage resulting from mishandling , neglect, misuse , improper maintenance , electrical surge accident or alteration or repair by anyone other , than an authorized Dnclave Distributor or Dealer .

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WARRANTY CERTIFICATE - APPLICATION

NAME

ADDRESS

CITY

STATE

COUNTRY

PHONE

PIN

INVOICE

ISSUE DATE

DEALER

MODEL

SERIAL NO.

BATCH

MANUFACTURING DATE

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Date of Installation	Installed By
Model No.	Serial No.
Warranty Period	
Name of Doctor & Address :	

Customer Sign. With Stamps

**Marketed By: Western Surgical
Sign. With Stamps**

No Claim Warranty :

- 1) Any Defect Throughtout Power Supply**
- 2) Any Physical Damage**

3) Under Warranty Standby Unit Not Provide

4) Under Warranty When Company Send Parts or Machine we Imidiat send to Buyer.

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OUR OTHER PRODUCTS RANGE



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