



**TABLE TOP FLASH AUTOCLAVE WITH STEAM GENERATOR, VACUUM PUMP, ZELIO-MICROPROCESSOR PANEL**

***Product Specification:***

Our USP-

- 1. Strong Central Locking System.**
- 2. Side Water reservoir for clean chamber.**
- 3. Chamber with Jacket.**

**Autoclaves Classes-**

CLASS-N

CLASS-B

CLASS-S

1. **"B TYPE AUTOCLAVE**-Class B type autoclave used for sterilizing all objects (solid instruments, porous objects and A & B hollow objects, both packaged and un-packaged);  
 Class N autoclave used for sterilizing only un-packaged solid instruments;  
 Class S autoclave used for sterilizing un-packaged solid instruments plus one other of the types indicated for cycle B (to be specified by the maker)."

2. **"S TYPE AUTOCLAVE**-Class S type autoclave sucks out hot air from the chamber where the instruments are placed on a metal perforated tray; this creates a vacuum so that the steam contacts the instruments. It is important for operators to know that instruments must be laid out in a single layer on the tray – no instruments must overlap. Sterilization pouches are used when using the ‘S’ type autoclave, (except for hand pieces) these pouches contain individual instruments and are sealed prior to sterilizing. The operator must ensure that the pouches are sealed correctly along the line indicated on the pouch, and that no air gaps are present.

The use of sterilization pouches means that there is less risk of instruments becoming contaminated after sterilizing as the instrument itself is not handled at all."

3. **"B TYPE AUTOCLAVE**-Class N type autoclave uses steam to move air downwards within the chamber where the instruments are placed on a metal perforated tray; this enables the hot air to contact all of the instruments. It is important for operators to know that the instruments must be laid out on the tray in a single layer – no instruments must overlap one another. Sterilization pouches that are available to hospitals and dental practices must not be used when sterilizing instruments in the ‘N’ type autoclave – this would result in sterile bags and unsterilized instruments

	Specifications
Working Pressure	Chamber & Jacket 2.5kg/cm <sup>2</sup>
Hydro test Pressure	Chamber 2.5 Kg/Cm <sup>2</sup> & Jacket 3.0Kg/cm <sup>2</sup>
Inner Chamber	Fabricated with SS 316
Jacket	Fabricated with SS 304
Design Temperature	121 & 134 degree centigrade
Vacuum	Full

<b>Door</b>	door and shall be fabricated from SS 304. maximum operator safety: - <ul style="list-style-type: none"> <li>• Process-lock to prevent opening of the door during the process.</li> <li>• Process-lock to prevent the opening of the door after successful completion of the cycle.</li> </ul>
<b>Insulation</b>	The sterilization chamber should be insulated with minimum of 50-mm thick R. B. Glass Wool, which is held in place by an outer cover of SS 304.
<b>Vacuum Break Filter</b>	A 0.3-micron vacuum break Air filter is to be provided on the sterile side for pressure equalization after vacuum creation.
<b>Piping Package:</b>	All process piping in contact with the chamber shall be fabricated from SS 304 with argon welding. All connections and fittings used are sanitary tri-clamp with silicone seals. All non-contact piping shall be fabricated from SS 304 with argon welding. All drain lines and exhausts to be connected to a drain manifold. The pipelines should have a 2% slope for full draining to prevent contamination. All pneumatic lines shall be polyurethane with aluminium die-cast connectors.
<b>Valve Package</b>	The process valves in contact with the chamber should be SS 304 contact parts with Teflon seat and triclamp connections. All non-contact valves should be SS 304 contact parts with Teflon seat. All automatic valves to be pneumatically actuated angle valves. The valves to be actuated by instrument air controlled via solenoid valves.
<b>Steam Accessories</b>	The jacket and chamber are to be provided with an over pressure safety valve. The chamber is to be provided with a steam trap.
<b>Surface Finish</b>	The inside of chamber and doors are to be finished to a surface finish better than 0.8 Ra value. All other noncontact parts are to be polished to a surface finish better that 180 grit.
<b>Process Management System</b>	The sterilizer is to be designed to perform a wide range of test and production programs to meet the latest regulatory requirements.
<b>Temperature and pressure sensors</b>	one sensors to be provided; one inside the chamber . For accurate process control and recording, all sensors are connected to the PLC and Recorder. The system must have a least count of 0.10 C. A pressure transmitter to be connected to the chamber. The system should have a Pressure least count of 0.002 bars. All utility lines to be provided with a pressure switches for generating an alarm in case of utility failure.
<b>Electrical Switchgear</b>	The control cabinet to be provided with a main isolator for the three-phase supply and a separate switch for the control supply. The fascia of the control panel is provided with indication LED's and switches for operation. All the switchgear :- Schneider
<b>Control Panel</b>	Control system to be provided user friendly zelio as a front end user interface. Following minimum attributes shall be provided.

## 1.0 : OPERATING PROCEDURE FOR AUTO RUN CYCLE ' START SWITCH'

1.1 : **Pre – Heating Phase:** Automatically' Heater' of boiler is 'ON' position ( If Water level is low automatically fill sufficient level water) , after achieving set steam pressure in boiler then automatically open the 'Steam Inlet Valve' and pass the steam in jacket to pre – heat the chamber as per set value and automatically stop the 'Steam Inlet Valve'

1.2 :**Pulsation Pre- Vacuum Phase**:Start automatically 'Vacuum Pump 'and 'Vacuum Valve 'after achieving set pressure then stop 'Vacuum Pump' and 'Vacuum Valve'.

1.3 :**Pulsation Vacuum Hold Phase**: After achieving vacuum hold as per set value ( show in pressure gauge).

1.4 :**Pulsation Pressure Phase**: Open automatically 'Steam Inlet Valve' replace the filtered steam as per set value (show in pressure gauge & HMI screen 'Analog value' ),as per set value of pulses nos. Repeat process of step no. 8.10.5 to 8.10.7.

1.5 :**Pulsation Pressure Hold Phase**: After achieving pressure hold as per set value ( show in pressure gauge).

1.6 :**Pre – Sterilization Phase**: Automatically open the 'Steam Inlet Valve 'and pass the steam in jacket to heat the chamber as per set temperature value.

1.7 :**Sterilization Phase** : After achieving set temperature value hold the temperature as per set time value.

1.8 :**Sterilization Exhaust Phase**: Automatically open the 'Exhaust Valve' and remove pressure from the chamber.

1.9 :**Post Vacuum Phase**: Start automatically 'Vacuum Pump 'and 'Vacuum Valve 'after achieving set pressure then stop 'Vacuum Pump' and 'Vacuum Valve'.

1.10 : **Post Vacuum Hold Phase**: After achieving vacuum hold as per set value ( show in pressure gauge).and after completion of vacuum hold automatically open the ' Air Inlet' and replace the filtered air from clean area up atmospheric then displayed the ' **CYCLE OVER** 'status on HMI.

1.11 : Ensure the chamber pressure completely release or 0.0 kg/cm<sup>2</sup> on the display on controller.

1.12 : If not require, close the valve all utility supply for Steam sterilizer.

1.13 : Open the door of lording side.

1.14 : Turn 'OFF' the UPS supply controller & Turn 'OFF' the main power supply switch .