



NEMR Industries Pvt. Ltd.
Empowering Nation with Quality Products

PLASMA H₂O₂ GAS STERILIZER

PURE 120D SPECIFICATION SHEET

Cycle time less than 55+5 C

- Short - 35+5 minutes (surface sterilization)
- Standard - 5+5 minutes (long lumen)
- Advanced - 55+5 minutes (Complicated lumen)

Sterilizer

- Dimension - 850mm(W)x 1,720 mm(H)x 1,000mm(L)
- Weight - 400 Kg

Sterilizer Chamber

- Dimension - 410mm(W)x 410mm(H)x 760mm(D)
- Volume - 120 liters / Vertical sliding double door
- Type - Rectangular, sus304 / 316, 2 tiered shelves

Electricity

- 220-230v, 50/60Hz, Single Phase, 3.5 Kw

Ambient environment

- 10-40C, 10-90RH% (NON Condensing)

Data

- Printer - Embedded [57mm Thermal Paper]
- Scanner - Sterilizing agent management
- Memory - USB memory, Ethernet connection

Display [Front & Rear]

- 10" Touch LCD, color

Installation environment

- <Single door>
Front : 800mm - Rear : 100mm
Upper : 100mm - Left, Right : 100mm
Flat floor
- <Double door>
CSSD layout



Technical specification

- Cassette type steilant (4 cycles) for multiple use
- 3 programmed cycles Parameters(Temperature, Pressure, Cycle time, Daily cycle, Total cycle, remaining sterilant level etc.) Graphical sterilant level information
- User log in function USB cycle data
- backup / Ethernet Port Electric
- plug only No water, plumbing facility
- required Cycle cancel function
- Automatic sterilant gas evacuation process if electric power is lost during sterilization LED Display for process monitoring(Error/ Cycle status) Alarm for materials & excess humidity (No sterilant loss) Hydrogen peroxide(H₂O₂) gas & plasma technology
- Self-diagnosis function Environment freindly, no toxic byproducts(Vapor H₂O, O₂) Visual and audible alarm
- Electric power failure alarm Embedded Computer (MS Windows system) Constant dose of sterilant for every injection phases(Capsule type). Sound volume adjustable from monitor screen.
- Automatic sliding door system(On screen, Foot sensor)
- Reprinting function for previous cycle history
- PM(Preventive Maintenance) alarm No booster and endoscope adapter required Stainless steel chamber Automatic cassette Loading & Eject system Vertical sliding Double door system (Front door, Rear door) Size should be minimum of 110 liter and above It should be have rapid warm up system It should have visual and Audible alarm

Overview

New sterilization technology based on plasma was patented in 1987 and marketed in the United States in 1993. Gas plasmas have been referred to as the fourth state of matter (i.e., liquids, solids, gases, and gas plasmas). Gas plasmas are generated in an enclosed chamber under deep vacuum using radio frequency or microwave energy to excite the gas molecules and produce charged particles, many of which are in the form of free radicals. A free radical is an atom with an unpaired electron and is a highly reactive species. The proposed mechanism of action of this device is the production of free radicals within a plasma field that are capable of interacting with essential cell components (e.g., enzymes, nucleic acids) and thereby disrupt the metabolism of microorganisms. The type of seed gas used and the depth of the vacuum are two important variables that can determine the effectiveness of this process. A newer version of the unit improves sterilizer efficacy by using two cycles with a hydrogen peroxide diffusion stage and a plasma stage per sterilization cycle. This revision, which is achieved by a software modification, reduces total processing time from 73 to 52 minutes. The manufacturer believes that the enhanced activity obtained with this system is due in part to the pressure changes that occur during the injection and diffusion phases of the process and to the fact that the process consists of two equal and consecutive half cycles, each with a separate injection of hydrogen peroxide. This system and a smaller version have received FDA 510[k] clearance with limited application for sterilization of medical devices.

Mode of Action

This process inactivates microorganisms primarily by the combined use of hydrogen peroxide gas and the generation of free radicals (hydroxyl and hydroperoxyl free radicals) during the plasma phase of the cycle.

Microbicidal Activity

This process has the ability to inactivate a broad range of microorganisms, including resistant bacterial spores. Studies have been conducted against vegetative bacteria (including mycobacteria), yeasts, fungi, viruses, and bacterial spores. Like all sterilization processes, the effectiveness can be altered by lumen length,