

ESTD. 1958



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NARANG SCIENTIFIC WORKS PRIVATE LIMITED

## MAINTENANCE MANUAL

HIGH PRECISION TEMPERATURE CONTROL EQUIPMENT FOR  
MEDICAL, INDUSTRIES & RESEARCH LABORATORIES



**WHO GMP**  
compliant company



### NSW-227 VERTICAL CYLINDRICAL AUTOCLAVE

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OPERATING INSTRUCTIONS & WARRANTY CARD

**Narang Scientific Works Pvt. Ltd.**

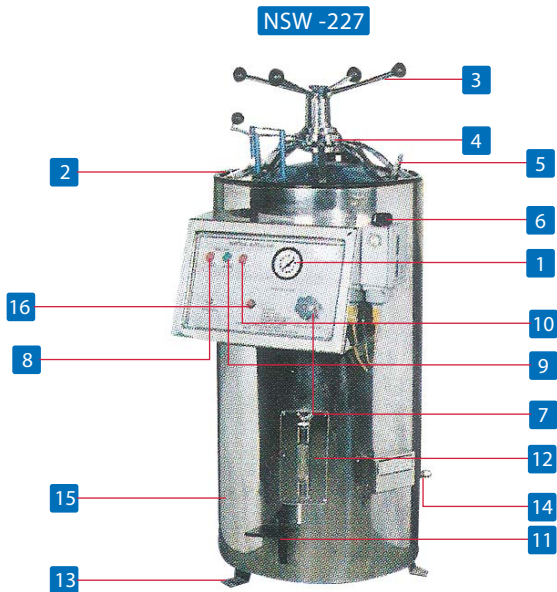
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NSW-227

## VERTICAL CYLINDRICAL AUTOCLAVE



## INTRODUCTION

The sterilizer purchased is Vertical Cylindrical Autoclave. Moist heat is temperature of saturated steam is the most common agent because it was noticed that no pathogenic organism has been found which could survive at 121°C temperature. The main sterilizing agent "Steam" comes from inside the chamber. The sterilizer chamber is made of stainless steel. It is fitted with stainless steel door which have radial lock and paddle lifting for easy opening and closing of door. This unit works on.

## PARTS IDENTIFICATION

1. Pressure gauge
2. lid (top cover of Autoclave)
3. Radial Handle
4. Ribs
5. Safety Valve
6. Pizzostat
7. Hand shut valve for steam exhaust
8. Main indicator
9. Pressure control indicator
10. Low water indicator
11. Lifting paddle
12. Water level indicator (inside chamber)
13. Legs may be bolted to ground
14. Water outlet
15. Stainless steel basket perforated (inside the chamber)
16. Push button switch to restart system (after putting water) when low water indicates

## TECHNICAL DATA

Model	NSW 227
Working Pressure	2.1Kg/Sq. Cm (15 to 22 P.S.I)
Design Pressure	2.2 Kg/Sq. Cm
Working Temperature	121 °C at 15 P.S.I
Electric Supply	220V / 440V AC
Connected Load	3 to 6 KW Max.

## CONNECTED LOAD KW

Size	KW	Liters
250x 450mm	3	22
300 x 500mm	3	40
355 x 550mm	4	50
400 x 600mm	4	78
450 x 600mm	4	98
550 x 750mm	6	187

Also available in customize sizes

## ■ GENERAL

Open the case, if supplied in wooden box packing safely remove unit from wooden platform by removing screws from bottom.

## ■ HOW TO OPEN THE LID (2)

Turn radial handle anti clockwise to remove the lid, put your leg on lifting paddle (11) and press downwards remove the lid and turn it towards left side. Remove the stainless basket (15) from the inside chamber. Then fill water in the chamber up to the level of stand kept inside the chamber. It is recommended to use distilled water for long life of Heating element as well as low consumption of electricity.

Now, you can keep your material in the basket or drum as convenient and close the lid.

## ■ TO START THE STERILIZER

Connected the plug / wires to electric socket / MCB of 32 AMP. (3 Phase) for model size. MA-6 & VA-6 otherwise low (16 Amp). Of MCB with single phase may be used to start the main supply. The red lamp (8) will glow. Set the pressure within 15 PSI to 22 PSI in the Pizzostat by rotating its knob (6) clock wise or anticlockwise. Now pressure control indicator (9) will glow and shall indicate that heaters are "ON"

## ■ STERILIZATION

When the pressure is attained to 15 PSI in the pressure gauge you will get 121°C temperature in the (1) indicator, if it is supplied which is optional at an extra cost.

## ■ ARRANGEMENT OF LOAD

Packs should be placed in the stainless steel basket. The flat packs should be placed on the edges. Place packs in such a way to ensure adequate steam circulation.

Do not permit crowding of packs.

Do not sterilize mixed load (such as rubber gloves with stainless steel of heavy loads at a time)

Effective sterilization of surgical supplies is not only dependent upon careful operation of this sterilizer but also depends upon the correct methods of packaging and proper arrangement of loads in the sterilizer. Operators should bear in mind that reliable performance demand the complete permeation of moisture and the heat-up to each and every strand and fiber of the material and this permeation will occur rapidly or slowly, depending upon the size and density of package.

Approximate sterilizer (exposure) period at 121°C temperature or 15 P.S.I. is as under:

1. Surgical packages in muslin wrappers 25-30mts.
2. Instruments wrapped muslin linen 30-35mts.
3. Utensils wrapped in muslin linen 15-20mts.
4. Rubber gloves in muslin 5-8mts.
- 5 . Interveners sets 25-30mts.
6. Treatments trays all kinds 25 -30mts.
7. Solutions (aqueous) in pyres flask 25-30mts

(These exposure periods are given just to act as guide line, however, each user/institute should form their own standard of timing to suit their requirement)

## **SPECIAL FEATURES**

The vertical autoclaves are not fitted with device to creating vacuum in the sterilizer through vacuum pump or centralize vacuum system. Therefore, air pockets must be removed by releasing steam 3 to 4 times before reaching the desired pressure set at 15 PSI.

## ■ IMPORTANT INSTRUCTION

- 1 Sterilizer must be attended by a competent person.
- 2 While sterilizing if it is found that temperature does not rise for long period the air pockets must be released for few seconds by opening and closing the hand shut valve.
- 3 In case the sterilizer is not to be used immediately flush out the water from the boiler by opening screw (14) and drain the water to avoid contamination.

## ■ CAUTION

- 1 Never operate the sterilizer without water.
- 2 Do not try to open lid when the sterilizer is under pressure.

## ■ MAINTENANCE INSTRUCTIONS

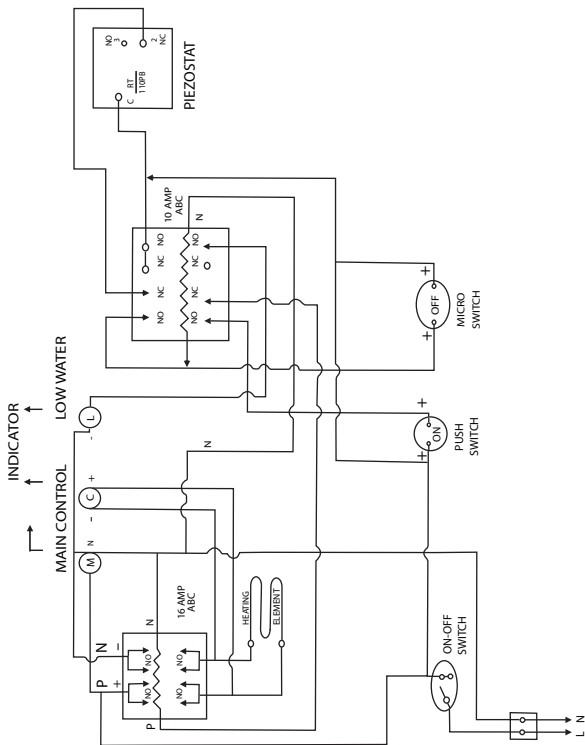
- 1 **Entire Heater** - De-scaling of heater should be done periodically. Avoid acid on terminals. Rinse thoroughly with tap water.
- 2 **Sterilizing Chamber** - Should be cleaned daily after use by flushing with water. Try to use distilled water.
- 3 **Top Lid Gasket** - If, steam is found leaking heavily from the top lid thoroughly tightened with normal pressure, the old gasket should be replaced by a new one. Clean groove of the gasket properly then fit a new gasket.
- 4 **Safety Valve** - If steam is found escaping continuously, remove the safety valve and replace it with new one.

In case you feel any kind of difficulty please do not hesitate to contact us. We shall be pleased to assist you without any obligation.

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## VERTICAL CYLINDRICAL AUTOCLAVE

### Diagram



## TERMS OF WARRANTY

ESTD. 1958



NARANG SCIENTIFIC WORKS PVT. LTD. guarantee the high quality and workmanship of each unit for a period of one year subsequent to the date of delivery by the company. During this period, faulty material will be replaced free of charge. This guarantee does not extend to components that are subject to wear and tear in the course of normal operation or due to improper treatment /maintenance as per instructions not followed.

- 1 The manufacturer is only responsible for effects on the safety, reliability and the performance of the instrument.
- 2 Installation, additions, adjustments, modifications or repairs are carried out by personnel authorized by the manufacturer.
- 3 The electrical installations within the room concerned satisfy the requirements laid down by ISO/CE.
- 4 The appliance is used in full accordance with the instruction manual which is solely a guide and no substitute for professional training. The safe and effective use of this product largely depends on the skill of the operator. We are not liable for any damages due to mishandling or improper and unauthorized use.
- 5 The company reserves the right to change technical specifications, designs without prior notice.

**Note:** In case you feel any kind of difficulty please do not hesitate to contact us. We shall be too pleased to assist you without any obligation. Our Instruments are guaranteed for 12 months from the date of purchase.

## WARRANTY CARD

Bill No. \_\_\_\_\_

Stamp:

Serial No. \_\_\_\_\_

Date of Purchase \_\_\_\_\_

Dealer Name \_\_\_\_\_