

## **NEONATAL VENTILATOR WITH ALL CONNECTOR**

1.The Ventilator should be a microprocessor based for use on premature babies from 300gms onwards .

2.It should be a time cycled, pressure limited ventilator with continuous flow and with the following settings parameters.

i. Continuous flow range : 1 to 30 LPM

ii. Inspiratory Time : 0.1 to 3 seconds

iii. Expiratory Time : 0 to 99.9 seconds

iv. Ventilation Frequency : 0-150 BPM

v. Inspiratory Pressure : 0 to 72cm H<sub>2</sub>O

vi. Trigger Mechanism : Flow Triggering mechanism detected by flow sensor of the circuit.

vii. PEEP : 0 to 30LPM

viii. Base Flow : 1 to 30LPM

ix. Assist Sensitivity : 0.2 to 5.0 LPM

3.It should have the following operating modes:

Assist-control, SIMV/IMV, SIMV/PSV, CPAP, PSV, Manual Breath, PEEP, Apnea backup ventilation with user selectable apnea time interval, etc.

4.The unit should be mobile mounted on trolleys for easy transportation

5.The unit should have provision for Nebulization during ventilation and for nasal CPAP function.

6.The ventilator should have built in digital monitoring facility to display important parameters like breath rate, patient initiated indicator (LED), minute volume, tidal volume (inspired and expired), percentage of tube leak, inspiratory time, expiratory time, I:E ratio, peak inspiratory pressure, mean airway pressure, peep.

7.The Ventilator should have easy control setting, alarm setting and monitoring panels for user friendly operation with electronic knob controls.

8.The unit should have audio visual alarm facility to indicate the following alarm conditions. Low PEEP, high breath rate, low Inspiratory pressure, high pressure limit, low gas supply, low battery patient circuit, prolonged inspiratory pressure, flow sensor fault, Apnea, etc.

9.The unit should have an integral air oxygen blender with proper bleed facility for accurate blending of air and o<sub>2</sub>.

10.The unit should be supplied with electronic humidifier, pole stand and two sets of reusable patient circuit.

11.The unit should have an analogue pressure gauge to measure proximal pressure and peep.

12.The unit should be supplied with the reusable flow sensor which is factory calibrated and should not have onsite calibration.

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13.The unit should have volume limit feature to avoid volutrauma conditions.

14.The unit should operate on 240 VAC supply with built in rechargeable battery backup for 30 minutes.

15.The unit should have an audio-visual low battery alarm to indicate the user when the battery voltage falls to a level below which the unit may fail to perform satisfactorily.

16.The ventilator shall be adequately protected against and be able to withstand the prevailing climatic conditions in Bihar.

17.The Ventilator should be suitable for the operation with temperatures from 10 degrees to 40 degrees with a relative humidity of 0 – 99%.

18.The Ventilator should be provided with a line power cord of acceptable durability, quality, length and current carrying capacity.

19.Equipment should include power [plugs that are sufficient for maximum voltage and current of the equipment.

20.If fuses are used, a spare fuse should be provided permanent marking near each fuse holder should indicate fuse ratings.

21.Equipment performance should not be affected by electromagnetic interference radiated or conducted through power lines from another device.

22.Equipment should have no sharp edges, should be securely mounted and should provide adequate protection against moving and electrically energized parts. for easy access to serviceable parts.

21.Packaging and Storage:

Packing of the equipment should be easy to open and well labeled and marked with devices name and sellers name and address.

22.Equipments should be able to withstand temperature and humidity extremes likely to be

encountered during storage and transportation.

23. Equipment should conform to international quality standards like CE/USFDA