NOCCARC

Ahead, Always.


# NOCCARC V310

## VENTILATOR

With

Integrated

HFNC

# Easy to use

# Reliable

# Versatile


**Noccarc V310** offers an advanced, compact yet reliable ICU ventilation solution. Carefully crafted with the combination of cutting edge research and advanced manufacturing technologies, the turbine based design enables highly efficient independent operation and a wide range of ventilation modes, including High Flow Nasal Cannula.

The IOT enabled system allows central data monitoring and logging remotely making **Noccarc V310** an accessible easy to manage option for the health professionals in the current case of Covid-19 pandemic.


# Modes of Ventilation

| | |
|---|---|
| Volume Controlled Ventilation | VC-CMV<br>VC-AC<br>VC-SIMV<br>PRVC-CMV<br>PRVC-AC<br>PRVC-SIMV |
| Pressure Controlled Ventilation | PC-CMV<br>PC-AC<br>PC-SIMV |
| Spontaneous Breathing Support | PS/CPAP (PSV) with Apnea Backup Ventilation<br>APRV<br>HFNC |
| Therapy type | Invasive Ventilation<br>Non-invasive Ventilation (NIV)<br>O2 therapy |
| Types of Patients Supported | Adults and Paediatric |
| Apnea Backup Ventilation | |
| Hign Flow Nasal Oxygen Therapy | |

# Technical Specifications

| | |
|---|---|
| Respiratory Rate (RR) | 1- 60 BPM |
| Peak Inspiratory Pressure | 60 cm $H_2O$ |
| PEEP | 0- 40 cm $H_2O$ |
| Pressure Support | 0- 50 cm $H_2O$ |
| Inspiratory Time (Ti) | 0.2- 5 s |
| PEEP | 0- 50 cm $H_2O$ |
| I:E Ratio | 1:6 to 6:1 |
| Tidal Volume (VT) | 50- 2000 mL |
| Inspiratory Flow Rate | 280 L/min (Internally restricted to 160 L/min) |
| Trigger Flow Sensitivity | 1- 20 L/min |
| Volume Accuracy | 2- 3% of full scale between 10 L/min- 80 L/m |
| $O_2$ concentration ($FiO_2$) | 21- 100 % |
| $FiO_2$ control | Closed loop electronic manipulation |
| Recruitment Tools | Inspiration Hold<br>Expiration Hold |
| Leak Detection and Compensation | YES |
| SIGH | Programmable |
| $O_2$ Therapy | Continuous flow 0- 100 L/min<br>Concentration 21- 100 % |
| Nebulizer | for 5, 6, 7, 8, 9, 10 minutes<br>Synced with Inspiratory Phase |
| Oxygen Input | 45- 60 PSIG |
| Screen | 10” TFT LCD Touchscreen |
| Dimensions Patient Unit | 395 X 340 X 255 mm |
| Weight | ~ 10.1 Kg Patient Unit<br>~ 25 Kg with trolley |
| Battery | Lithium, Internal |
| Battery Back-up Time | Upto 8 hours |
| Mains Input | 200- 240V AC, 50- 60 Hz |
| Input Current | <2.00 A |
| Power Consumption | <150W |

Compliant with IEC 60601-1 Standard

# Monitored Parameters

| | |
|---|---|
| Pressure Measurements | Peak Inspiratory Pressure (PIP)<br>Positive end Expiratory Pressure (PEEP)<br>Plateau Pressure (Pplat)<br>Driving Pressure<br>Mean Pressure (Pmean)<br>Range:  0 to 100 cm H2O |
| Flow Measurements | Expiratory minute Volume (MVe)<br>Inspiratory minute Volume (MVi)<br>Spontaneous Expired minute Volume (Spont. MVe)<br>Range 0 to 160 L/nin |
| Volume Measurements | Inspiratory Tidal Volume (VTi)<br>Expiratory Tidal Volume (VTe)<br>Total Leak Volume |
| Other Measurements | Oxygen Concentration (FiO2)<br>Respiratory Rate (RR)<br>I:E Ratio<br>Rapid Shallow Breathing Index (RSBI)<br>Static Lung Compliance (Cstat)<br>Dynamic Lung Compliance (Cdyn)<br>Inspiratory Time (Ti)<br>Expiratory Time (Te) |
| Trends | Storage of trends for last 48 hours of all parameters |

# Graphic Mode with Display

Flow vs Time

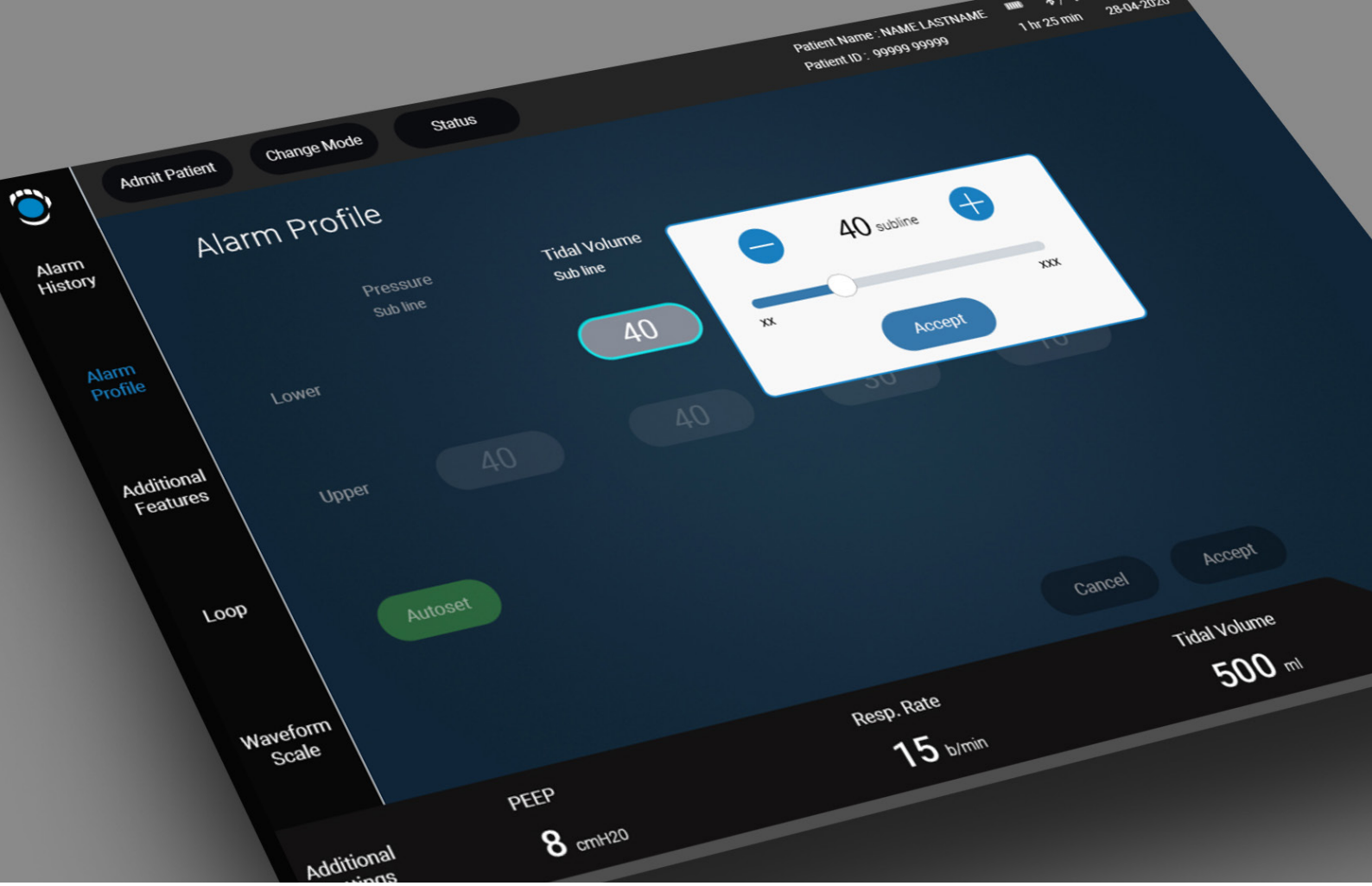
Pressure vs Time

Volume vs Time

Pressure-Flow Loop

Pressure-Volume Loop

Volume-Flow Loop




# Alarms for Device and Patient Safety

| | |
|---|---|
| Alarms for Patient Safety | PEEP (High / Low)<br>Respiratory Rate (High / Low)<br>Tidal Volume (High / Low)<br>$FiO_2$ (High / Low)<br>High Inspiratory Pressure<br>Patient Disconnection<br>Battery Low |
| Alarm Features | Color coded alarms based on priority<br>Adjustable Apnea Alarm time (Tapnea)<br>History of last 200 alarms |

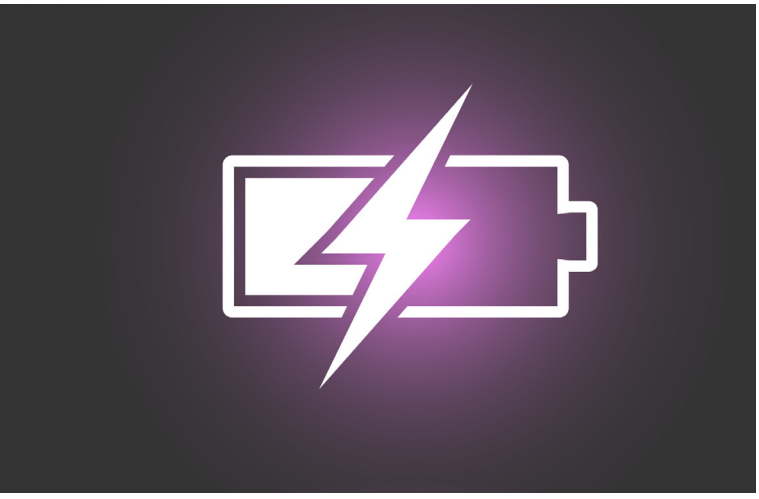
# Unique Features

## High Flow Oxygen Therapy
## HFNC Mode

Noccarc V310 HFNC mode when used with humidifier, is capable of delivering up to 100% humidified and heated oxygen at a flow rate of up to 100 LPM. High flow therapy increases alveoli recruitment and delivers high $FiO_2$, while offering increased patient comfort.

## UV-C Decontamination Chamber

The UV-C decontamination chamber mitigates the risk of transmission of airborne diseases by reducing the bacterial and viral load going into the ICU atmosphere from patient exhaled air.



## 8 Hours Battery Backup

Noccarc V310 is a powerful turbine based ventilator with a battery backup of upto 8 hours. The compact, independent and power efficient design enables it to operate without compressed medical air or compressor, making it ideal for ICUs as well as transport.

## Inbuilt Programmable Nebulizer Synced with Inspiratory Phase

Inbuilt programmable nebulizer provides quick and convenient way to administer medication to ventilated patients. The inspiratory phase synchronization algorithm reduces medication loss during expiration, and precisely delivers set tidal volume.

## 10 inch Touchscreen with User-friendly Interface

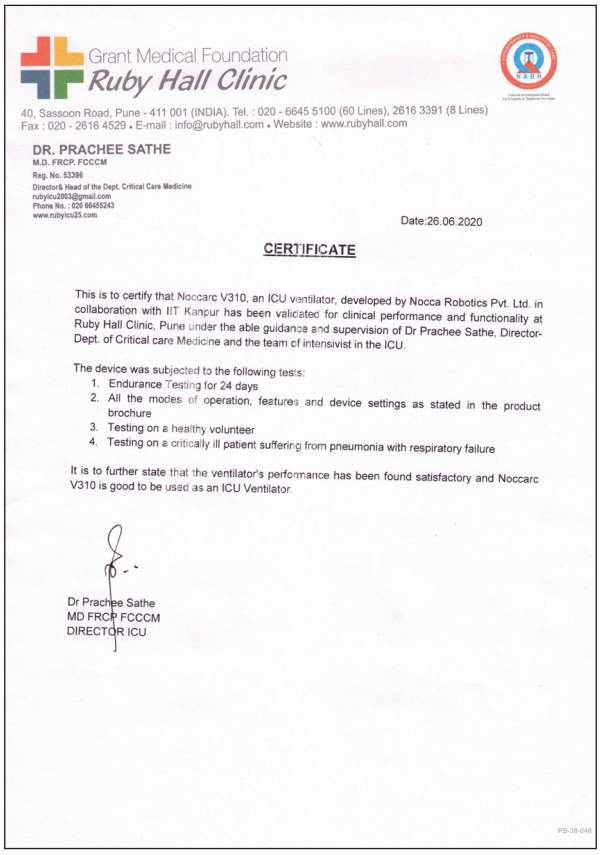
The integrated 10 inch Touchscreen Interface provides great monitoring and controlling capabilities. The customized interface is designed considering inputs from healthcare professionals and has been created for quick, easy and intuitive usage. A screen lock feature prevents accidental changes.

## IoT Enabled Central Data Monitoring and Logging*

Central monitoring system incorporates innovative features such as flexible trending and display capabilities, advanced alarm management and cloud data logging. Combined with a user friendly web interface with seamless networking system via wireless LAN, Noccarc V310 offers safe and manageable control for healthcare professionals.

* Central monitoring system is not included with the ventilator and has to be ordered separately.

# Testimonials



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Date:26.06.2020

**CERTIFICATE**

This is to certify that Noccarc V310, an ICU ventilator, developed by Nocca Robotics Pvt. Ltd. in collaboration with IIT Kanpur has been validated for clinical performance and functionality at Ruby Hall Clinic, Pune under the able guidance and supervision of Dr Prachee Sathe, Director-Dept. of Critical care Medicine and the team of intensivist in the ICU.

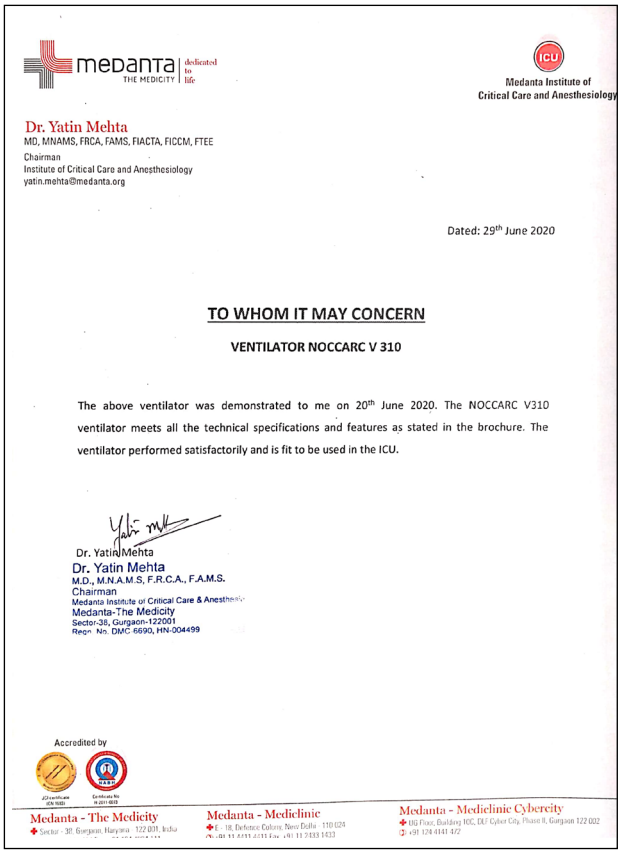
The device was subjected to the following tests:

1. Endurance Testing for 24 days
2. All the modes of operation, features and device settings as stated in the product brochure
3. Testing on a healthy volunteer
4. Testing on a critically ill patient suffering from pneumonia with respiratory failure

It is to further state that the ventilator's performance has been found satisfactory and Noccarc V310 is good to be used as an ICU Ventilator.

Dr Prachee Sathe
MD FRCP FCCCM
DIRECTOR ICU

PS-38-048



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Dated: 29th June 2020

**TO WHOM IT MAY CONCERN**

**VENTILATOR NOCCARC V 310**

The above ventilator was demonstrated to me on 20th June 2020. The NOCCARC V310 ventilator meets all the technical specifications and features as stated in the brochure. The ventilator performed satisfactorily and is fit to be used in the ICU.

Dr. Yatin Mehta
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NOCCARC
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