

# VEN - 8410

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## Neonatal Ventilator



EPCC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

**Analytical Technologies Limited**

An ISO 9001 Certified Company

[www.analyticalgroup.net](http://www.analyticalgroup.net)

## ►► Introduction:

Ventilator is an intelligent and universal effective solution for neonatal to adult patients. Intuitive and simple user interface with quick operational readiness with an automatic device check provides confidence in use and reduces training time. Wide range of ventilation mode makes it suitable for various clinical requirement in Intensive care units.

## ►► Ease of Use:

Simple user interface and effortless operation makes to be intuitive and require minimum amount of training for the medical and nursing staff.



### Standard Ventilation Modes

PACV, VACV, PSIMV, VSIMV, SPONT,  
PRVC, AwPRV, Bi-level,  
Apnea Back-up ventilation

### Advanced Ventilation Modes

Standard - AutoVent, O<sub>2</sub>Stream  
Optional - TCPL-AC, TCPL-SIMV, CPR,  
PRVC-SIMV, HFV (SHFV, DHFV)

## ►► Reduce Ventilator Induced Lung Injury



## ►► Invasive & Non-Invasive Ventilation

Compatible for intubated and non-intubated patient's ventilation.



Non-Invasive Ventilation



Invasive Ventilation

## ►► Predicted Body Weight (PBW):

Predicted body weight function is the most simple way of starting and providing ventilation herein all the parameters of the patients are set automatically according to his/her body weight. 8ml/ kg is the default PBW function which is pre-set in the ventilator, this value is user configurable as per the requirement.



### Integrated Air Compressor Trolley (Optional)

Air outlet/inlet Fitting : Quick touch coupler

Dimensions (L×W×H) : 460mm x 525mm x 810mm

Weight : 45 Kgs

Operating Environment : Temp. Up to 32°C, Humidity ≤ 85%

Power Requirement : 230v AC ±10%, 50/60 Hz, 550W

Alarms : Low Pressure and High Temperature

Dryer : Electronic

Water Removal System : Automatic

## ►► CPR Ventilation (Cardiopulmonary Resuscitation)

CPR mode that provides resuscitation and chest compression assistance (beep sound) to the patient under cardiac arrest

## ►► Closed Suction Support



During Suction the negative pressure can cause auto- triggering which is very harmful for the patient. equipped with closed suction support system, on its activation the existing ventilation mode is suspended and the ventilator shifts on to CPAP mode with SET PEEP+ 3 cmH<sub>2</sub>O of pressure support at the same time O<sub>2</sub> boost (100% O<sub>2</sub>) is given to the patient.

## ►► Successful Weaning With the presence of following modes



## ►► **Monitoring Parameter for Ventilator Weaning :**

P 0.1 Negative airway pressure generated during the first 100 ms of inspiration, it determines the neuromuscular activation of the respiratory system which predicts the weaning of the patient.

## ►► **Two Types of Nebulization**

Micro pump Nebulizer & Pneumatic Nebulizer.

**Standard** : Pneumatic nebulizer

**Option** : Micro-pump nebulizer

## ►► **O<sub>2</sub> Stream**

### **High Flow Nasal Cannula Therapy**

non-invasive respiratory therapy to improve lung oxygenation by supplying high flow, heated and humidified oxygen to the patient through nose. This facilitates in increase in the functional residual capacity by increase in PEEP, reduce the W.O.B., optimize the nasal and the mucosa of the upper respiratory track and reduce the residual exhalation gas of the anatomical dead space.

### **Feature of Nasal High Flow Oxygen Therapy**

- Efficient Oxygenation
- Washout of nasopharyngeal dead space (CO<sub>2</sub> Ventilation)
- Increase Functional Residual Capacity
- Reduce Work of Breathing
- Reduce Energy Cost of Gas Conditioning

### **Central Monitoring System (Optional)**

- Dual LCD screen : 32 bedsides patient monitoring system
- Single LCD screen : 16 bedsides monitoring display
- 10 days graphic trend for each patient monitor
- Display 12 waveforms of patient monitoring for each patient monitor
- Display 3 waveforms of a ventilator display
- Available wireless LAN or Cable wired network

## ►► **Easy to Manage Ventilator**

- Easy to maintain
- Efficient management system which tells about the expected replacement time of each and every assembly
- Reminder alarm for calibration and Service of the equipment

## ►► Technical Specifications

### Display Data

Display : 15" TFT colored touch screen with navigation knob

Display Motion : Adjustable vertical tilt

Parameters : Setting parameters, patient status parameters, Alarm status, I:E ratio

Graphic Waveform : Pressure-Time, Flow-Time, Volume-Time

Trend : Up to 72 hrs. - VE/min, Pmean, Ppeak, PEEP, Vte, RR, CL, RA. Optional - SpO<sub>2</sub>, PR, iCO<sub>2</sub>, EtCO<sub>2</sub>

Loops : Pressure-Volume, Flow-Volume, Pressure-Flow

Measuring Data : P0.1 measurement, Exp.Flow, RSBI, CL, RA, WOBV, WOBP

System Alarm : O<sub>2</sub> / Air supply pressure Fail, Obstructed tube, Circuit open, Ventilator in-operation,  
Low Battery

EVENT : 1,000 event log : Alarms & Settings

Optional Parameters : SpO<sub>2</sub>, PR / EtCO<sub>2</sub>, iCO<sub>2</sub>

### Setup Function

BTPS : OFF / Auto Humid / Auto Dry

Proximal Flow / Pressure : All OFF / P.ON, F.OFF / P.ON, F.ON

Sensor : 10 – 180 min

Neb Time : 5 mL/kg – 15 mL/kg

BWF : ON / OFF

Tube Compensation : ON / OFF

O<sub>2</sub> Sensor Disable Sound volume : 10 – 100 %

### Communication

RS232 (COM1) : 115200 BPS for CMS

LAN : 100 MHz for CMS or EMR (HL7 support)

### Environmental

Storage Temp : (-)20 – 70°C

Relative Humidity : 0 – 95%, non-condensing

Operating Temp : 10 – 40°C

Relative Humidity : 10 – 90%, non-condensing

**Alarm Settings**

High Tidal Volume (Vte) : 5 – 2500 mL / OFF

Low Tidal Volume (Vte) : 0 – 2500 mL

High Min Volume (Vte, min) : 0.1 – 50 LPM

Low Min Volume (Vte, min) : 0.0 – 49.9 LPM

High Respiration Rate : 3 – 180 BPM

Low Respiration Rate : 2 – 179 BPM

High Peak Airway Pressure : 1 – 120 cmH O<sub>2</sub>

Low Peak Airway Pressure : 0 – 119 cmH O<sub>2</sub>

High O<sub>2</sub> % : 19 – 100% / OFF

Low O<sub>2</sub> % : 18 – 100%

Airway Leak : 50 – 500 mL / OFF

Apnea : 2 – 60 sec

**Lung Mechanics**

PV Tool : P Limit 5 – 60 cmH<sub>2</sub>O, Time

Inspiration hold : Measures patient's lung compliance and resistance, Elasticity, Time constant

Expiration hold : Measures auto-PEEP

**Electrical**

Power Source (AC) : 100 – 240 VAC, 1 A, 50 / 60 Hz

Internal Battery : PB-Acid 12 V

Operating Time : 180 min Max

Power Consumption : 0.3kw

**Physical**

Overall : W499.4 x D599.1 x H1423 mm

Main Unit : W326 x D414.2 X H388 mm

Display Monitor : W400 x D48 x H276 mm

Mobile Cart (optional) : W499.4 x D599.1 x H725 mm

Unit Net Weight : 50kg (without compressor and mobile cart)

Compressor Weight : 90kg

Mobile Cart Weight : 25kg (approx.)

### **Ventilator Data**

Body Weight Range : 1 – 150 kg

Tidal Volume : 2 – 2500 mL

Inspiratory Pressure : 0 – 99 cmH O<sub>2</sub>

Pressure Support : 0 – 99 cmH O<sub>2</sub>, above Peep Max 99 cmH O<sub>2</sub>

Respiratory Rate : 0 – 150 BPM

Inspiratory Flow Rate : Up to 180 LPM

Ventilator Modes : PACV, PSIMV, VACV, VSIMV, Spont, Apnea Back-up Ventilation, O<sub>2</sub> Stream,  
PRVC, Bi-Level, AwPRV, Auto Vent

I:E Ratio : 4:1 – 1:20

Inspiratory Time : 0.1 – 9.9 sec

Pause Time : 0 – 2.0 sec

PEEP / CPAP : 0 – 60 cmH O<sub>2</sub>

Enable Ins. Trigger (En-sens) : 10 – 80% of Inhaled volume

Exh. Trigger Sensitivity (Ex-trig) : Off, 5–50

F-end (Flow end) : 25 – 100% of peak flow

Trigger Sensitivity : Pressure : 0.1 – 20 cmH O<sub>2</sub> Flow : 0.1 – 20 LPM

FiO<sub>2</sub> % : 21 – 100%

Sigh : OFF / Delivers one sigh breath every 30, 60, 90, 120 breaths

Sigh volume = Set tidal volume x 1.5

Mask (Leak Compensation) : OFF / ON (up to 25 LPM)

Rising Time (Trise) {PS} : 0.1 – 2.0 sec

Rising Time, PSV {PSV} : 0.1 – 0.5 sec

Flow Limit {PSV} : 10 – 60 LPM / OFF

### **Optionals**

Ventilation Mode : TCPL-AC, TCPL-SIMV, CPR, PRVC-SIMV, HFV (SHFV, DHFV)

Lung Mechanics : PV-TOOL, Paux (Esophageal & Tracheal Pressure)

Accessory : Proximal Sensor (Pressure/Flow), Nasal Cannula for O<sub>2</sub> Stream

Vital Sign Functions : SpO<sub>2</sub> , EtCO<sub>2</sub>

Cart : Mobile Cart



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## Reach us @



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