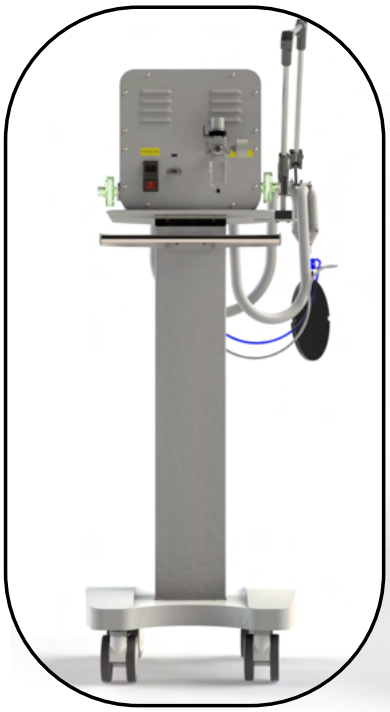
AVI Healthcare Pvt Ltd

# विधा dv10+

NEONATAL | PEDIATRIC | ADULT

ICU VENTILATOR



VIHA dv10+ is a powerful, versatile high end ventilator for all patient groups. It offers a number of advanced and unique features along with wide range  of modes, functions  enables precise specialised treatment of critically ill patients.

VIHA dv10+ 's compact and powerful turbine offers  independance from compressed air to allow maximum mobility throughout the hospital.

- Adult, Pediatric and Neonatal Ventilation
- Invasive and Non Invasive Ventilation
- Turbine driven Ventilation
- Inspiration syncronized Ultrasonic / Vibrating mesh Nebulizer
- High Flow Oxygen therapy, Apnea backup Ventilation
- Advanced modes such as APRV, BIVENT, MMV and PRVC
- Advanced Maneuvers such as P0.1, Recruitment, O2 Flush, Inspiratory and expiratory hold, Intrinsic PEEP, Sigh
- Inbuilt ETCo2 with Mainstream connector (Optional), Inbuilt SpO2 module (Optional)
- Tested as per EN 60601-1:2006 /A1:2013, EN 60601-1-2:2015, EN 60601-1-8:2007/A11:2017, ISO 80601-2-12:2020

# Ventilation Modes

| Modes |  Adult |  Pediatric |  Neonatal |
|---|---|---|---|
| VC - CMV | ● | ● | ○ |
| VC - ACV | ● | ● | ○ |
| VC - SIMV | ● | ● | ○ |
| PC - CMV | ● | ● | ● |
| PC - ACV | ● | ● | ● |
| PC - SIMV | ● | ● | ● |
| PC - APRV | ● | ● | ● |
| PC - MMV | ● | ● | ● |
| PC - BIVENT | ● | ● | ● |
| CPAP | ● | ● | ● |
| PRVC - CMV | ● | ● | ● |
| PRVC - ACV | ● | ● | ● |
| PRVC - SIMV | ● | ● | ● |
| HFNC | ● | ● | ● |

## Non Invasive Ventilation (NIV)

When NIV is enabled, All the modes work in Non Invasive ventilation as well with automatic leak compensation

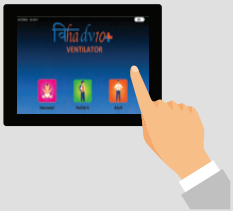
## Pressure Support (PS)

Pressure Support (PS) is an option which supports the patient when an inspiratory patient flow trigger is detected. It is activated on low pressure level (expiration) and on high level (inspiration). This is available in PC - SIMV, PC - BIVENT, PC - APRV, PC - MMV and VC - SIMV.

## Apnea Backup Ventilation

Apnea backup can be activated in CPAP Mode to PC-SIMV mode.

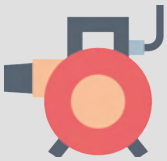
# Unique Features



10.1"Touch Screen
User Interface

Inspiration syncronized
Ultrasonic / Vibrating mesh
Nebulizer

Universal Ventilation
Adult | Pediatric | Neonatal



Turbine driven Technology

Battery Backup upto
6 hours

Powerful Non Invasive
Ventilation

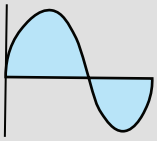
High Flow Oxygen
Therapy (HFNC)

Apnea Backup
Ventilation

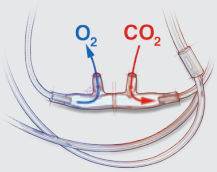
Active autoclavable
Exhalation Valve

Dynamic Safety Valve

Proximal Flow Sensor
Measurement



Flow and Pressure Trigger
in all modes



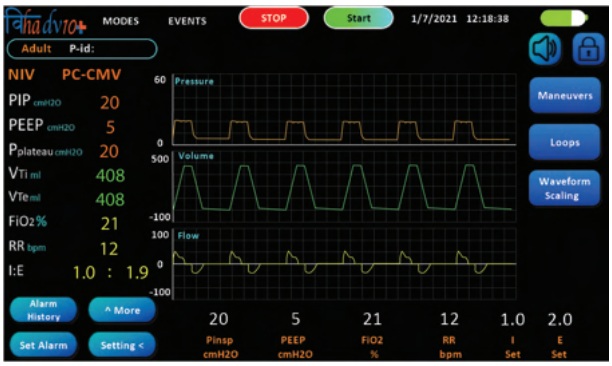

ET CO2 Mainstream
Capnography

Pulse Oximetry
SpO2 and pulse

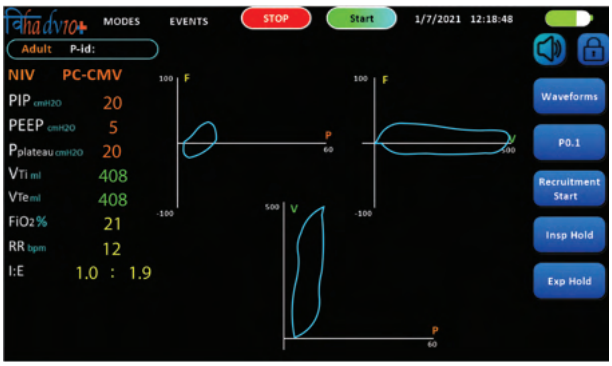
## Ventilator Maneuvers

| | | | | |
|---|---|---|---|---|
| $O_2$ Flush | P0.1 | Lung Recruitment | Nebulizer | Intrinsic PEEP |
| Inspiration Hold | Expiration Hold | Sigh | Tube Compensation | Proportional Pressure Support |

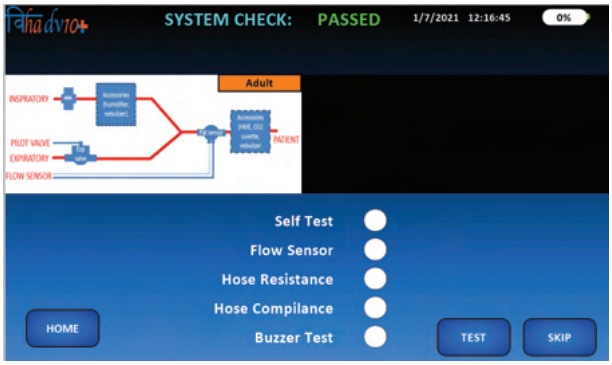
# User Interface




*Easy to use, touch screen interface with Real time Pressure, Volume and Flow graphs vs time. Waveform scaling gives user better visibility*

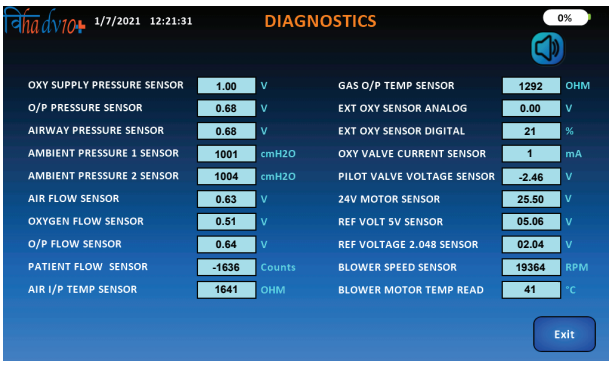



*Loops help understand Respiratory Mechanics and are plotted as Pressure - Volume, Volume - Flow and Pressure - Flow scales.*

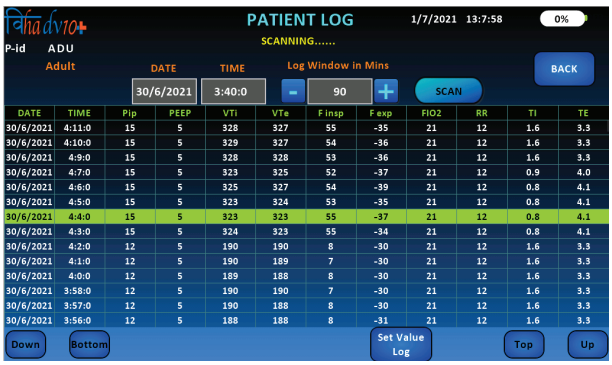



*SYSTEM CHECK before each new patient or change of circuit with Self Test, Flow Sensor, Hose Resistance, Hose Compliance andn Buzzer Test*


*Display of all monitored parameters for detailed understanding of patient dynamics*




*DIAGNOSTICS screen displays all the important parameters important for ventilator health such as pressure, temperature, flow, motor voltage, blower speed etc.*



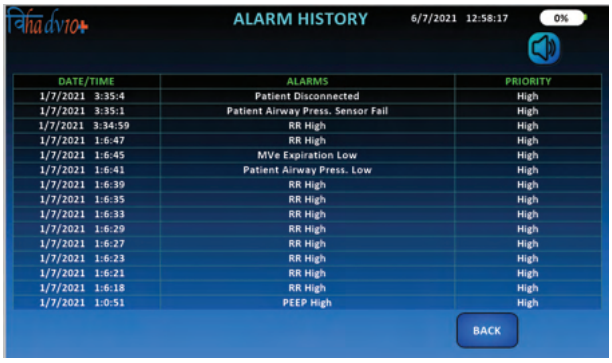

*PATIENT LOG displays all the patient data of last 48 hours for upto 100 patients*

# Technical Specifications

| | |
|---|---|
| Inspiratory pressure | 0 - 90 cmH2O |
| Pressure Support | 0 - 90 cmH2O |
| Maximum limited pressure | 100 cmH2O (70 cmH2O at ambient pressure < 950 mbar) |
| PEEP | 0 - 40 cmH2O |
| Respiratory Rate (RR) | 3 - 200 bpm |
| I:E Ratio | 1:9.9 to 9.9:1 |
| Tidal Volume (VT) | 2 - 2000 ml |
| Pressure Trigger | 0 to -10 cmH2O |
| Flow Trigger | 0 to 20 lpm |
| Maximum Flow | > 180 lpm |
| Volume Accuracy | +/- 5% |
| O2 concentration (FiO2) | 21 - 100% |
| Leak Detection and Compensation | > 50 lpm |
| O2 Therapy | 0 to 65 lpm |
| Oxygen Input | 3 - 6 bar, Medical Grade |
| Display | 10.2 inch colour touch screen TFT |
| Dimensions | 300 mm x 300 mm x 330 mm |
| Weight | 11.62 Kg ; 25 Kg with Trolley |
| Battery | Lithium Phospourous, 25.6V 6Ah |
| Battery Back-up Time Mains Input | 360 minutes |
| Voltage | 190 to 240 VAC, 50Hz |
| Power Consumption | 150W |
| Standards and Approvals | Tested as per<br>EN 60601-1:2006 /A1:2013, EN 60601-1-2:2015,<br>EN 60601-1-8:2007/A11:2017, ISO 80601-2-12:2020 |
| Maneuvers | O2 Flush, Sigh, P0.1, Lung Recruitment, Inspiration Hold, Expiration Hold,<br>Nebulizer, Tube Compensation, Intrinsic PEEP |
| Flow Sensor | Sensatronic DP Flow Sensor - Adult, Pediatric & Neonatal |
| Oxygen Sensor | Envitec, OOM202 |
| Breathing Circuit | Resistance ≤ 0.3mbar/Ls-1 |
| Nebulizer | Ultrasonic Nebulizer - Compatible with Aerogen Solo<br>Time - 0 to 30 mins, Inspiration Syncronized |

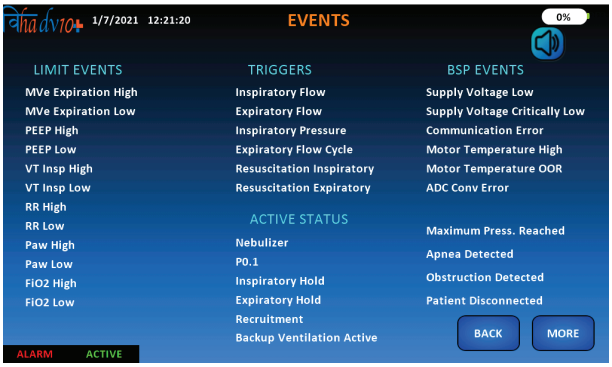
# Alarms

| | | |
|---|---|---|
| Limit Based | Mve (High / Low)<br>PEEP (High / Low)<br>Vtinsp (High / Low)<br>RR (High / Low)<br>Paw (High / Low)<br>FiO2 (High / Low) | |
| Safety Based | Patient disconnect<br>Apnea detected<br>Obstruction detected<br>Max pressure reached<br>Relief to peep<br>Relief to ambient pressure | Emergency pressure release<br>Air input flow low<br>Supply voltage Critically low<br>Battery Critically Low<br>Oxygen supply pressure too low<br>Patient flow sensor fail |
| Hardware Malfunction | Blower Fail<br>Pilot valve fail<br>Oxygen sensor Fail<br>Safety valve Fail<br>Oxygen valve fail<br>Output pressure sensor fail<br>Patient airway pressure sensor fail<br>Output flow sensor fail<br>Air flow sensor failed<br>Oxygen flow sensor failed | Internal flow measurement fail<br>No pressure sensor available<br>Input gas temperature sensor fail<br>Output gas temperature sensor fail<br>Motor temperature sensor fail<br>Oxygen supply pressure sensor fail<br>System Communication fail<br>Motor temperature out of range<br>Motor temperature high |




*Complete Alarm History of last 24 hours tabulated with time stamp*


*ALARM SETTING for monitored parameters with Auto-Set function*





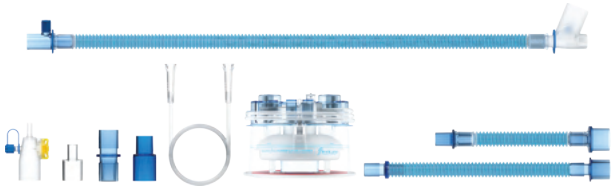
*Display of all alarms, events, triggers with their respective status in Real Time. This gives the user complete under-standing of all critical events and a protection againt each safety event / malfunction.*

# Accessories

Servo Humidifier
Heated Wire based

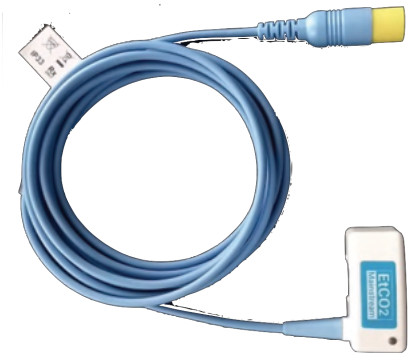
Exhalation Valve
Reusable & Autoclavable


Aerogen Solo
Vibrating Mesh based
Nebuliser



Neonatal Ventilator Circuits
Heated Wire based

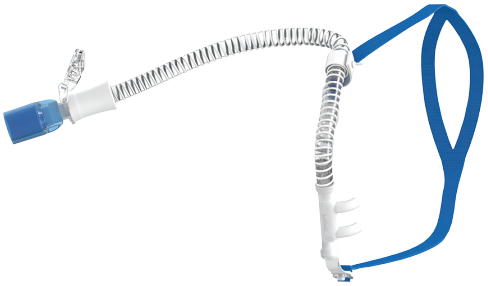
Adult / Pediatric Ventilator Circuits




ETCO2 Mainstream Module
Respiration rate range: 2~150 breath/minute

SpO2 Module - NONIN

Full Face Mask for NIV
Size - Adult / Pediatric



High Flow Nasal Cannula
(Adult)

# Notes

*"At AVI Healthcare, it is our mission to become a "Glocal" (Global + Local) company manufacturing innovative Medical Equipments to treat, cure and save people by constant innovation, research and achieving highest quality standards."*

Designed, Manufactured and Marketed by :

AVI Healthcare Pvt Ltd

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