ABM
Managing Lung Function

BiWaze™ ION Ventilator

TECHNICAL SPECIFICATION

BiWaze™ ION Tele-Ventilator

TELE-HEALTH ENABLED

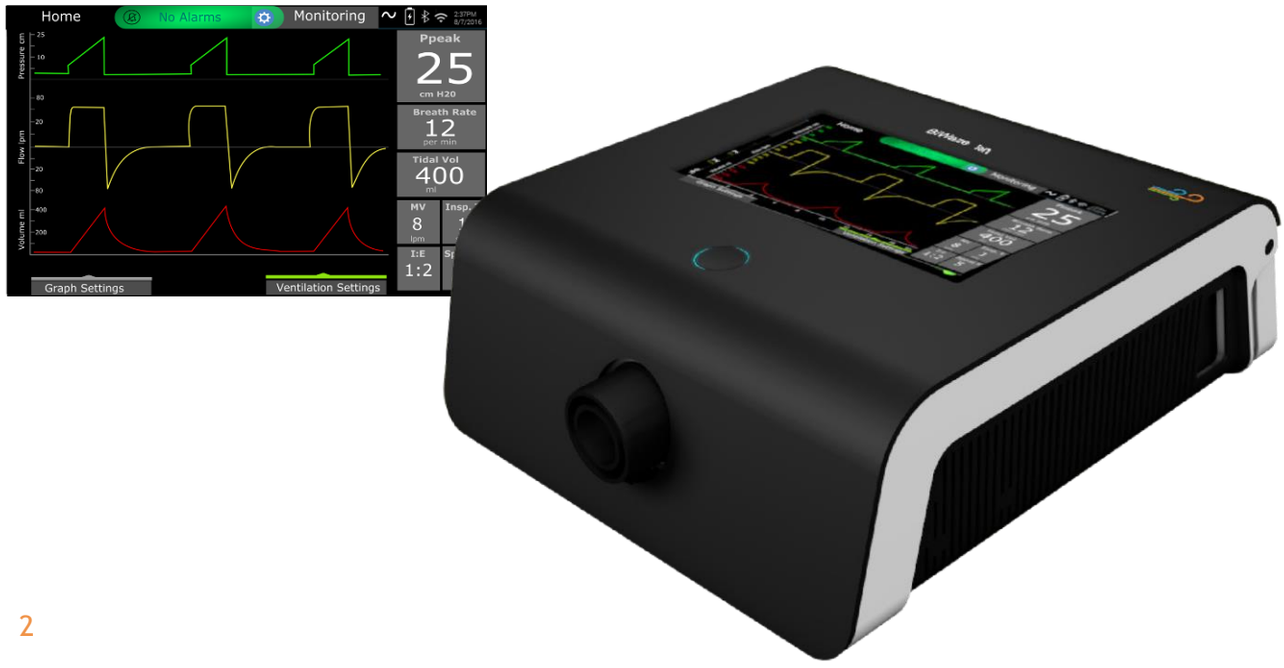
An innovative ventilator which enables healthcare providers monitor and program the Ventilator anywhere in the world in real-time just like being in proximity. IOT-enabled Tele-Ventilator helps to bridge skill shortage with remote access and reduce facility acquired infection during COVID-19 pandemic.

VERSATILE

BiWaze™ Ion uses advanced turbine technology to implement various Ventilatory Modes which provide a safe and comfortable Ventilation to both paediatric and adult patients inside and outside the hospital.

SEAMLESS WORKFLOW

Touchscreen-based User Interface is carefully designed taking multiple feedbacks from clinicians and users. All key Control and monitoring functions are implemented to provide a seamless experience to the user.



BiWaze™ ION System Technical Specifications

1.0 PATIENT TYPES

- Adult
- Pediatrics (more than 10kgs)

2.0 MODES*

- All Key Pressure and Volume Control modes: PC-CMV, PC-SIMV, PSV, PRVC, ACV, VC-SIMV, VC-CMV
- CPAP and BPAP

3.0 AIR SUPPLY

- Uses High Performance Turbine
- No External Compressor Needed

4.0 POWER SOURCES

- Mains: 100– 240 Volt AC
- Mode/Emergency Power Issues (3 Hours)

5.0 CIRCUIT TYPES

- Active Inhalation Valve with PAP
- Active Exhalation Valve/Port with Flow Sensing

6.0 INTERNET OF THINGS/ CONNECTIVITY

- Latest Bluetooth and Wi-Fi Features
- Device can be controlled and monitored by centralized workstation or from outside experts

7.0 OXYGEN CONTROL

- Low-flow O2 Bleed
- No compressed high-flow O2 needed

8.0 PHYSICAL PROPERTIES

- Weight: < 4 Kgs including internal batteries
- Dimensions: 30cm L x 25 cm W x 9.5cm H

*Note: **
BiWaze™ ION Basic has only Pressure Support, CPAP and BPAP Modes, NO Volume Modes

BiWaze™ ION Plus has all key Pressure and Volume Modes including CPAP and BPAP Modes

9.0 CONTROLS/SETTINGS — RANGE

Insp. Pressure	4-60 cmH2O
PEEP	2-30 cm H2O
Pressure Support	0-40 cm H2O
Breath Rate	0-60 BPM
Insp. Time	0.3-5 secs
Rise Time	1-5
Insp. Trigger	1-9
I:E Ratio	1:9 & 9:1
Exp. Flow Trigger	10%-90%
Tidal Volume	100-2000ml

10.0 SYNCHRONY FEATURES

- Advanced Algorithm – Flow & Pressure Based
- Various Level of Settings : 1 to 9

11.0 MONITORED PARAMETER — RANGE

Tidal volume	0 – 2000 ml
Minute ventilation	0 – 99 l/min
Respiratory rate	0 – 60 BPM
Peak inspiratory flow	0 – 200 l/min
Peak inspiratory pressure	0 – 99 cmH2O
Mean airway pressure	0 – 99 cmH2O
I:E ratio	9.9:1 – 1:9.9
SPo2	Up to 100%
(external accessory) FiO2 (external accessory)	Up to 100%

12.0 ENVIRONMENTAL

- Operating temperature 5 to 35 Degrees
- Relative Humidity : 15% to 95%

*Note: * Being Tested now*

13.0 ALARM SETTINGS — RANGE

High Pressure	4-60 cmH2O
Low Pressure	4-60 cm H2O
High Tidal Volume	Off, 100-2000 ml
Low Tidal Volume	Off, 100,2000 ml
High Breath Rate	Off, 4-80 bpm
Low Breath Rate	Off, 4-80 bpm
High Minute Volume	Off,1-99 L
Low Minute Volume	Off, 1-99L
Circuit Disconnection	Off, 10-60 secs
Power Supply Unplugged	Yes
Apnea	Off,10-60s and 4-60bpm

14.0 COMPLIANCE — RANGE

IEC 60601-1	Medical electrical equipment Part 1: General requirements for safety
IEC 60601-1-2	General requirements for safety – collateral standard Electromagnetic compatibility – requirements and tests
IEC 62304	Medical Device Software – Software Life Cycle Processes
ISO 10993-1	Biological evaluation of medical devices - Part 1: Evaluation and testing within a risk management process
ISO 18562-1	Biocompatibility evaluation of breathing gas pathways in healthcare applications - Part 1: Evaluation and testing within a risk management process
ISO 80601-2-12*	Particular requirements for basic safety and essential performance of critical care ventilator

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