



INSPIRE - 100

An Emergency Ventilator








TekMedika Pvt. Ltd.

INSPIRE-100 is a patent-pending ventilator design tailored for adult patients, providing comprehensive ventilatory support from initiation to weaning.

It features a user-friendly Human-Machine Interface with a clear front panel and advanced remote monitoring capabilities accessible via laptops, desktops, tablets, or mobile devices.

This device is particularly suited for facilities without access to compressed gas or oxygen pipelines and is built to withstand challenging environmental conditions.

INSPIRE-100 supports four commonly used ventilation modes: CMV, ACV, SIMV, and PSV. It offers a full range of breath parameters across all modes, ensuring complete assistance for patient-initiated breathing.

-  Unmatched Affordability
-  Unmatched Remote Monitoring via WiFi
-  Unmatched Ease-of-use
-  Works without Compressed Air Pipeline
-  Works with Oxygen Cylinder or Concentrator
-  Field Upgradeable
-  Complete Set of mainstream Parameters

Intended Use

Adult Patients only

- ✓ Acute Respiratory Distress Syndrome (ARDS)
- ✓ Chronic Obstructive Pulmonary Disease (COPD)
- ✓ Obese Hypoventilation Symptoms (OHS)
- ✓ Cheyne-Stokes breathing (CSR/CSA)
- ✓ Neuromuscular Diseases
- ✓ Pneumonia
- ✓ Asthma
- ✓ Drug Overdose
- ✓ Snake Bites

Technical Specs

| Mode | Description |
|-------------|---------------------------------------|
| CMV | Continuous Mandatory |
| ACV | Synchronized Assist Control |
| SIMV | Synchronized Intermittent Mandatory |
| PSV (BiPAP) | Pressure Supported (BiPAP equivalent) |

| Volume Control Parameter | Range |
|--------------------------|-----------|
| Tidal Volume (ml) | 200 - 600 |
| Respiration Rate (bpm) | 10 - 30 |
| I:E Ratio | 1:1 - 1:3 |
| PEEP (cmH2O) | 4 - 15 |
| FiO2 (System Managed) | External |

| Pressure Support Parameter | Range |
|------------------------------|---------|
| Support Pressure (cmH2O) | 5 - 25 |
| Flow Trigger Termination (%) | 30 - 50 |

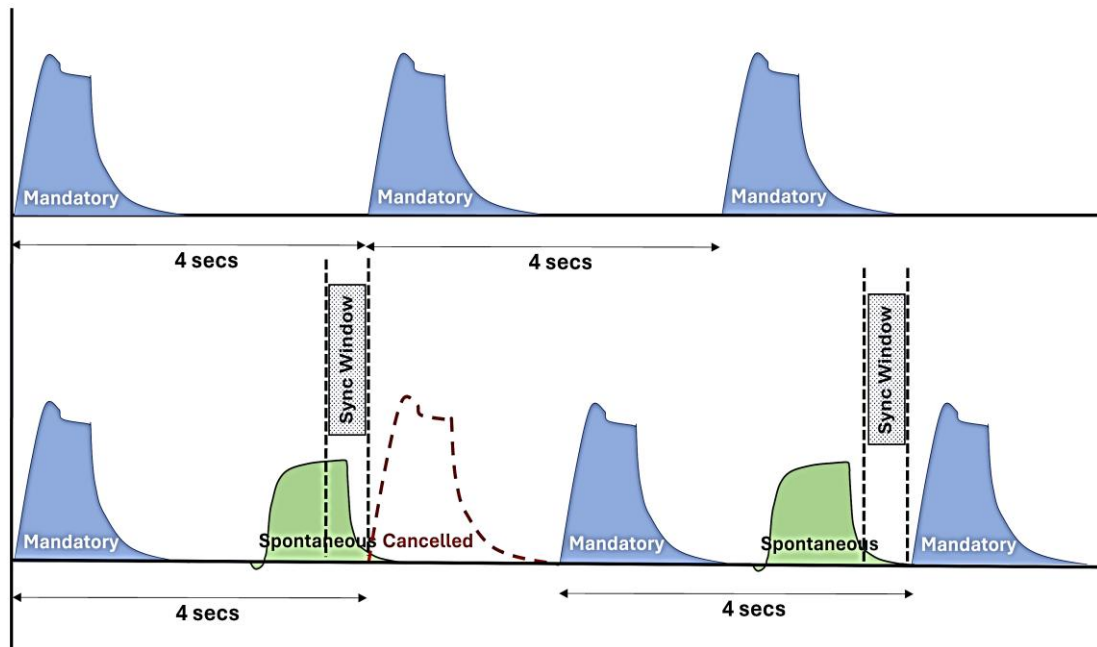
| Full Set of ALARMS | |
|-------------------------|--------------------|
| Max Pressure | Pressure Leak |
| Pressure Loss | Airway Blockage |
| Cough / Hiccups | System Temperature |
| Inconsistent Parameters | Extreme Parameters |
| Replace BVM | BVM Size |
| and many more ... | |

Power Consumption 120W

Breath Synchronization for Patient Comfort

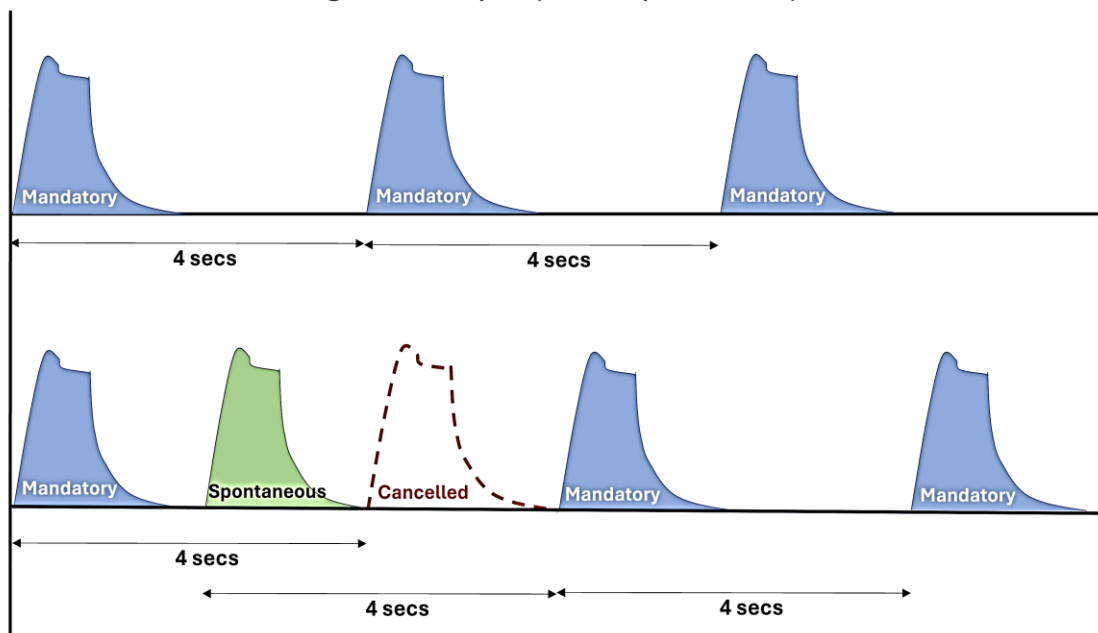
Breath Synchronization in SIMV Mode

e.g. RR=15 bpm (4 secs per breath)



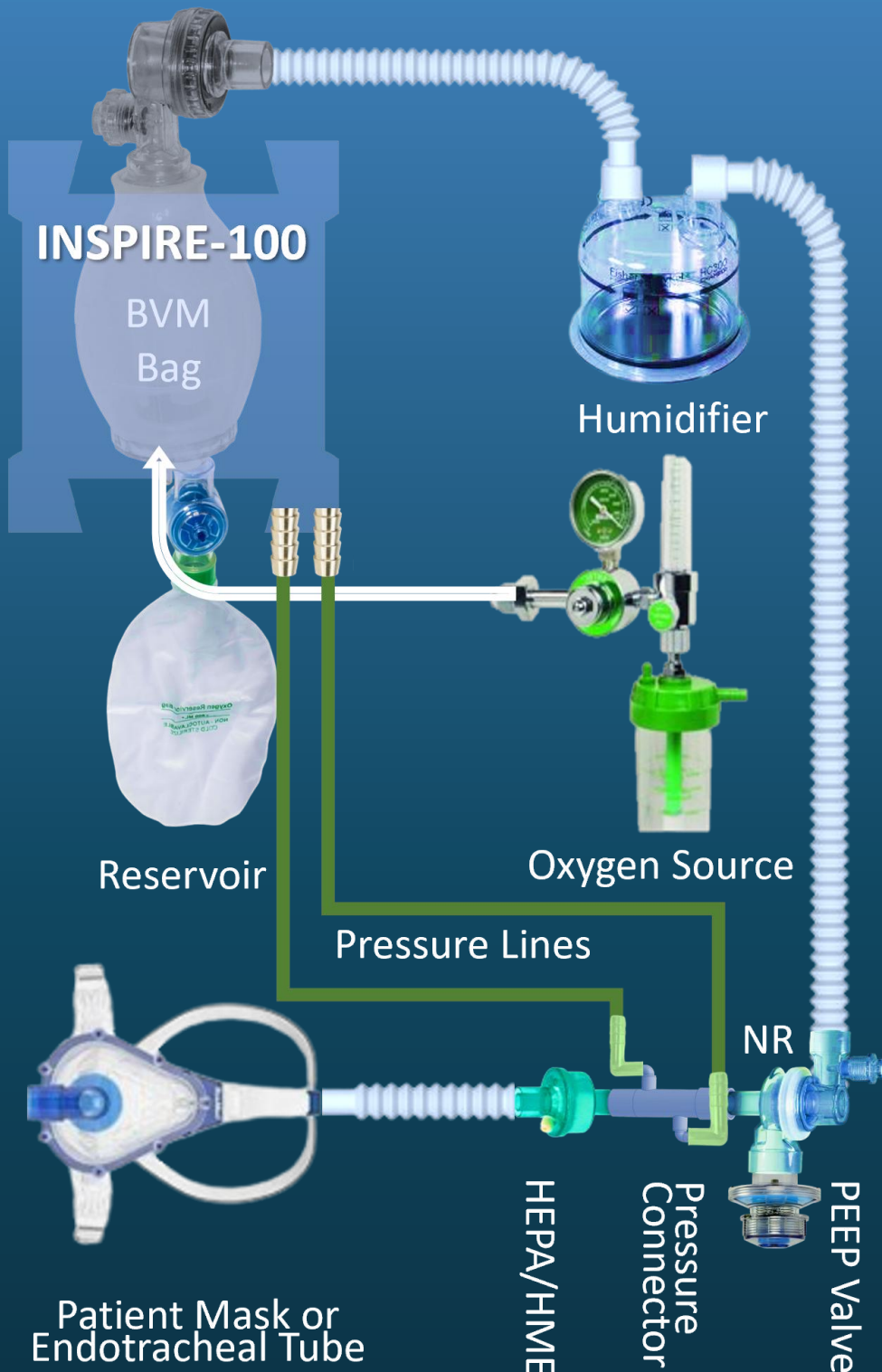
Breath Synchronization in ACV Mode

e.g. RR=15 bpm (4 secs per breath)

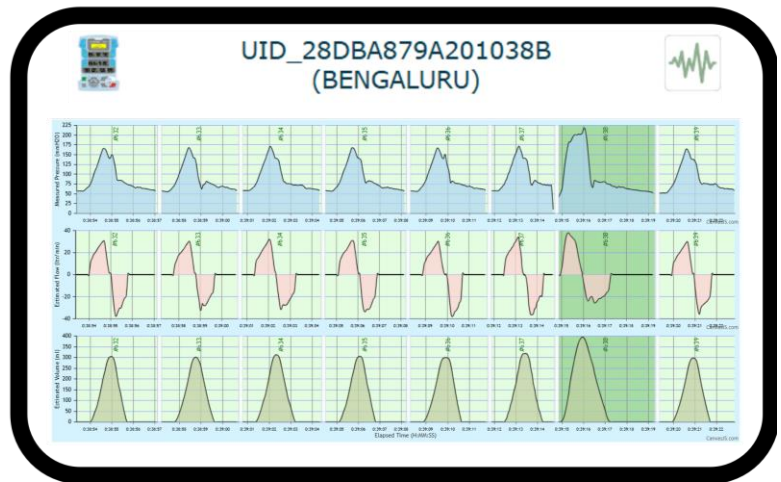
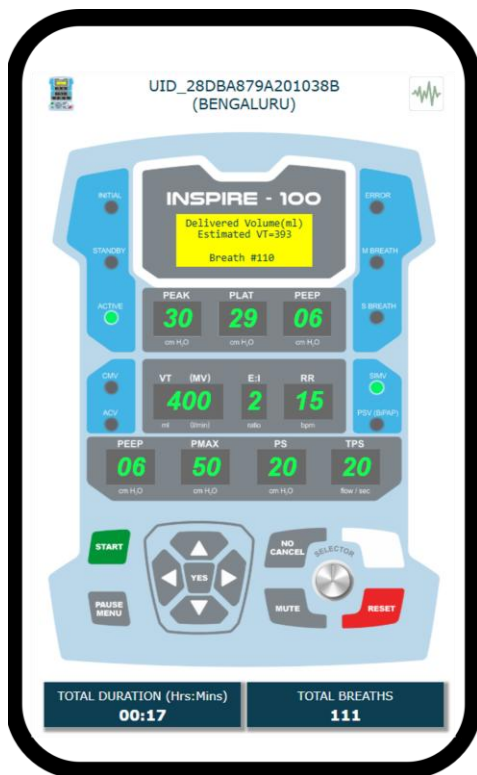


Breathing Circuit

Simple, Off-the shelf, Single-limbed and compatible with Standard Accessories



Remote Monitoring



- ✓ Accessible on Laptops & Mobile devices
- ✓ Search & Range Selection
- ✓ Snapshots View
- ✓ Waveforms View
- ✓ Charts View
- ✓ Statistics View
- ✓ Recording and Playback
- ✓ Multi-system Display

Demo Long [09-05-2024 17:40:26]

MATCH CRITERIA

((MODE_SETTING == "SIMV") AND ((BREATH_TYPE == "MANDATORY") AND ((TIDAL_VOLUME < 250) OR (PEAK_PRESSURE > 30))))

☒ MODE_SETTING EQ SIMV

AND
☒ BREATH_TYPE EQ MANDATORY

AND

☒ TIDAL_VOLUME LT 250 ml

OR

☒ PEAK_PRESSURE GT 30 cmH2O

CLEAR

EXPORT


IMPORT


SEARCH

SEARCH RESULTS in Breath number range [1, 128]

| Range | | Matching Breaths | | Parameter Values | | | |
|--------------------------|--------|------------------|----------|------------------|-------------|--------------|---------------|
| Select | Number | Date | Time | MODE_SETTING | BREATH_TYPE | TIDAL_VOLUME | PEAK_PRESSURE |
| <input type="checkbox"/> | 9 | 09-05-2024 | 17:40:56 | SIMV | MANDATORY | 229 | 37 |
| <input type="checkbox"/> | 10 | 09-05-2024 | 17:41:00 | SIMV | MANDATORY | 252 | 34 |
| <input type="checkbox"/> | 11 | 09-05-2024 | 17:41:04 | SIMV | MANDATORY | 278 | 36 |
| <input type="checkbox"/> | 43 | 09-05-2024 | 17:43:31 | SIMV | MANDATORY | 216 | 10 |
| <input type="checkbox"/> | 44 | 09-05-2024 | 17:43:35 | SIMV | MANDATORY | 216 | 10 |
| <input type="checkbox"/> | 46 | 09-05-2024 | 17:43:43 | SIMV | MANDATORY | 205 | 22 |
| <input type="checkbox"/> | 47 | 09-05-2024 | 17:43:47 | SIMV | MANDATORY | 227 | 24 |
| <input type="checkbox"/> | 48 | 09-05-2024 | 17:43:51 | SIMV | MANDATORY | 234 | 23 |

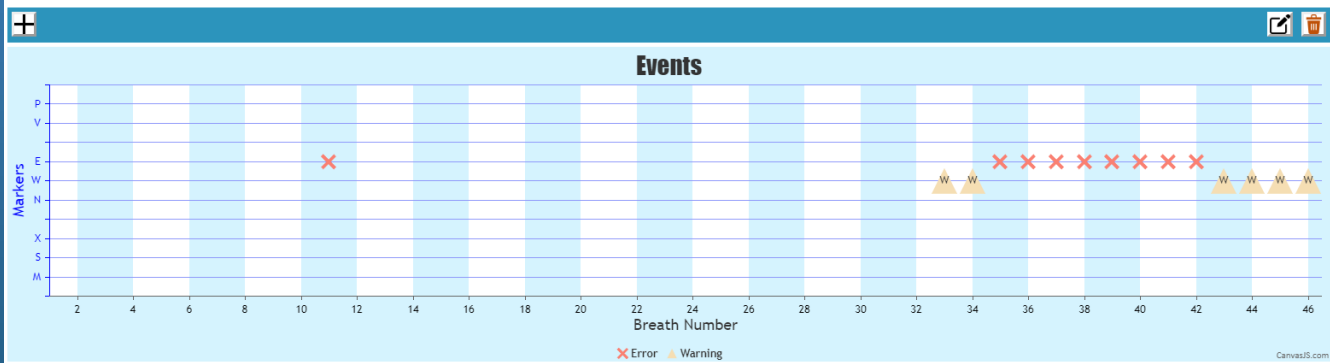
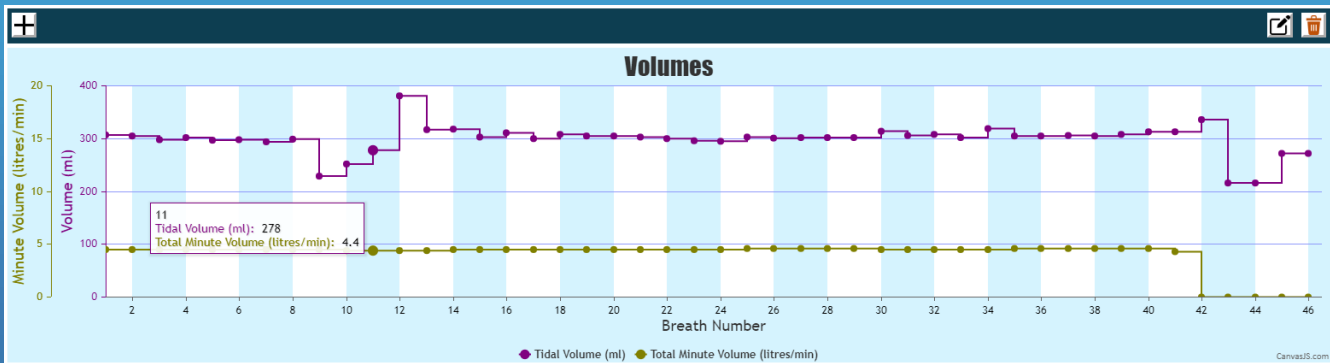
8 Matches: End of Search

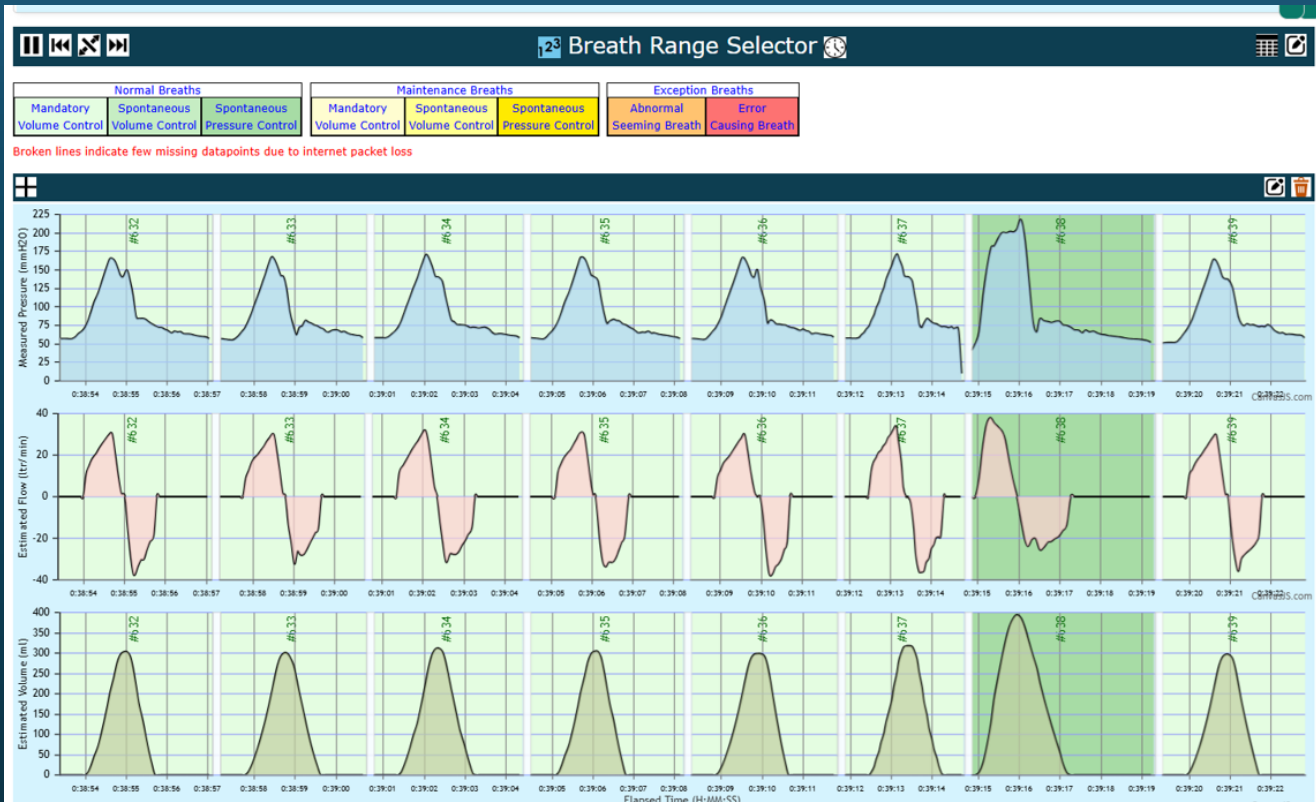



| | Breath Number | Breath Start Time | | |
|------|---------------|-------------------|-------------|----------|
| | | Day | Date | Time |
| From | 520 | Fri | 26-Apr-2024 | 12:20:05 |
| Upto | 579 | Fri | 26-Apr-2024 | 12:22:58 |
| SPAN | 60 | 00:02:53 | | |

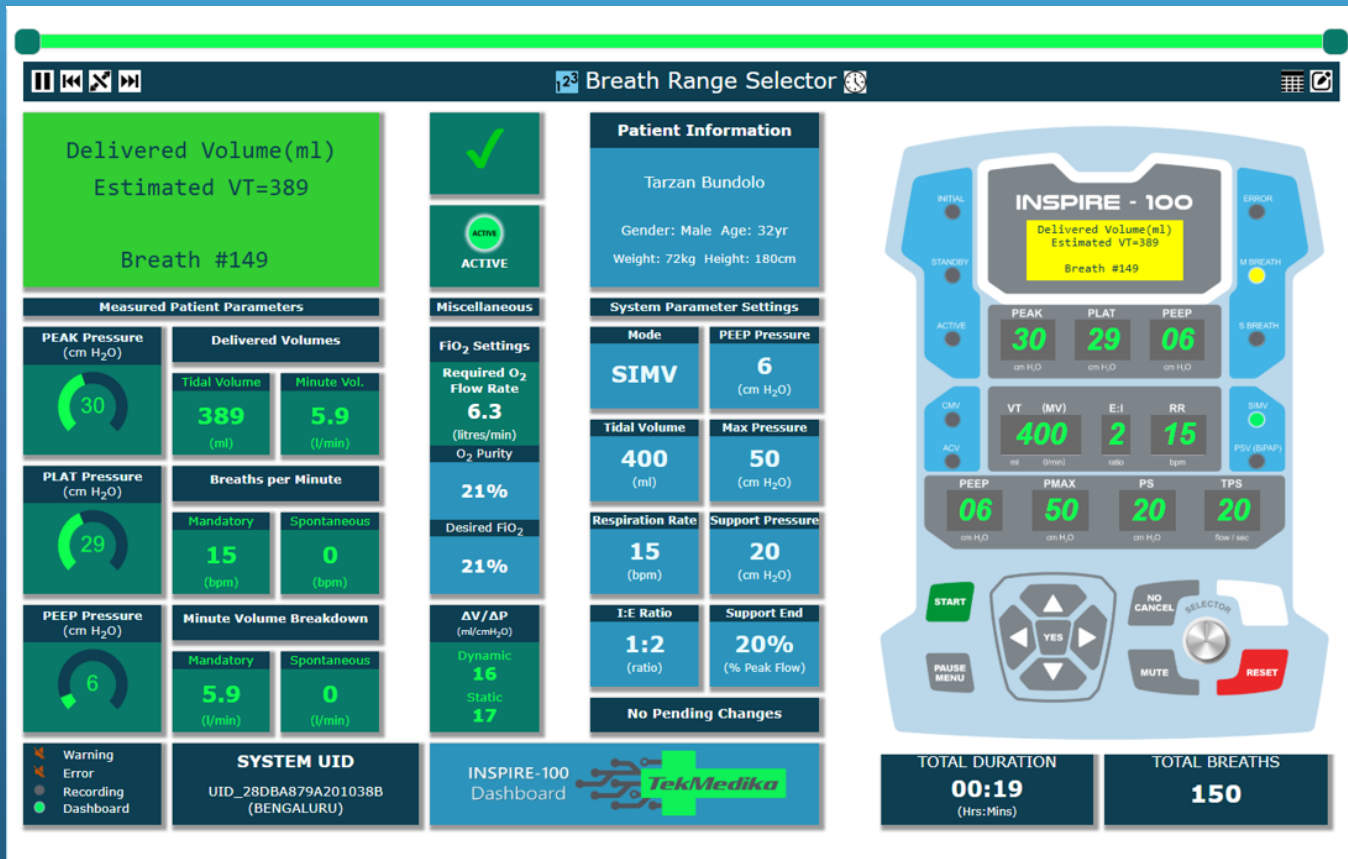
Charts for All Parameters



Pressure & Flow Waveforms



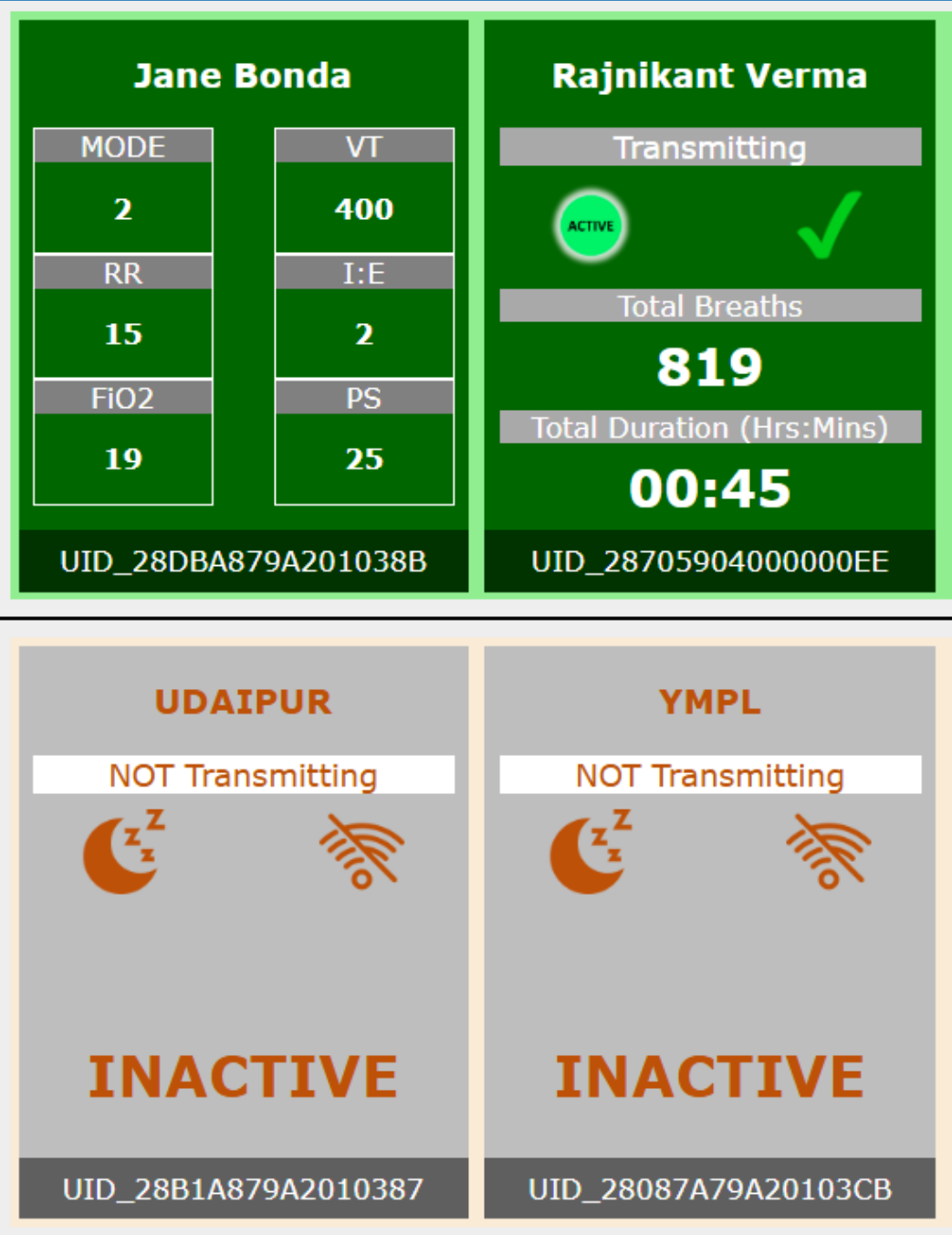
Snapshots for each Breath



Detailed Statistics

| Parameters Measured | | | | | Static Information | | |
|---|------------|-----|-----|-------|---|--|--|
| Parameter | Units | Min | Max | Avg | Patient Name: James Bond007 Gender: Male Age: 42yr Weight: 76kg Height: 185cm System Location: Bengaluru Location Altitude: 3000 ft Location Atmospheric Pressure: 930 cmH2O Location Atmospheric Oxygen: 19% | | |
| Peak Pressure | cmH2O | 21 | 26 | 25.7 | | | |
| Plateau Pressure | cmH2O | 19 | 24 | 23.7 | | | |
| PEEP Pressure | cmH2O | 3 | 6 | 5.0 | | | |
| Tidal Volume Delivered | ml | 284 | 966 | 311.9 | | | |
| Total Minute Volume | litres/min | 0 | 5.8 | 4.3 | | | |
| Mandatory Minute Volume | litres/min | 0 | 4.6 | 4.1 | Parameter Settings Used | | |
| Spontaneous Minute Volume | litres/min | 0 | 1.9 | 0.2 | | | |
| Mandatory BPM | bpm | 0 | 15 | 13.8 | | | |
| Spontaneous BPM | bpm | 0 | 2 | 0.2 | | | |
| FIO2 | % | 35 | 35 | 35.0 | | | |
| Static ΔV/ΔP | ml/cmH2O | 0 | 18 | 15.9 | | | |
| Dynamic ΔV/ΔP | ml/cmH2O | 0 | 16 | 14.4 | MODE VT/MV RR I:E PEEP PMAX PS TPS FIO2 #BREATHS Before# SIMV 300 15 1:2 5 85 20 1.5 35 119 2 | | |
| System Temperature | degC | 35 | 35 | 35.0 | | | |
| Miscellaneous Information | | | | | | | |
| Information | Value | | | | | | |
| Number of Breaths | 120 | | | | | | |
| Number of Mandatory Breaths | 118 | | | | | | |
| Number of Spontaneous Breaths | 2 | | | | | | |
| Number of Maintenance Breaths | 0 | | | | | | |
| Number of CMV Spontaneous Breaths | 0 | | | | | | |
| Number of Missing Intervals (Packet loss) | 0 | | | | | | |
| Number of WiFi Disconnects | 0 | | | | | | |
| Number of Notifications | 0 | | | | | | |
| Number of Warnings | 0 | | | | | | |
| Number of Errors | 0 | | | | | | |

Multi-system Monitoring For Nurses Station



A summary state of all systems can be displayed on one screen. Each system is shown as a tile.



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