



Defence Research & Development Organization
(Dr. APJ Abdul Missile Complex)



DEVEN PORTABLE VENTILATOR

SAFE

RELIABLE

ECONOMICAL



EFFECTIVE

INDIGENOUS

INNOVATIVE

PORTABLE

DRDO designed and developed ventilator "DEVEN" for COVID-19, using indigenous technology and commercially off the shelf (COTS) available components.

DEVEN is a truly portable with economical design, having best combination of features, cost, safety and reliability.

DRDO's experience in the field of aerospace systems has enabled it to ensure quality and ruggedness vis-à-vis rapid manufacturability and microprocessor based fail-safe design

Alarms

- Power Failure
- High / Low Inspiratory Pressure
- High / Low Tidal Volume
- High / Low PEEP
- Patient Disconnected
- Ventilation Abnormal
- No Flow
- Control Failure
- Interlock for accidental switch-off

Other Features

- Provision for connecting HEPA filters in inspiratory&expiratory lines
- Real-time display of parameters with inspiratory pressureand flow graphs
- In-built 7" LCD touch-screen
- User-friendly Graphical Interface
- No moving parts

Designed by:

DRDO

Dr. APJ Abdul Kalam Missile Complex
Hyderabad - INDIA

Industry Partner:

Sigma Microsystems Private Limited

24/A, Hardware Park
Hyderabad - INDIA



SPECIFICATIONS

| | |
|--------------------|---|
| Modes | Invasive, Non-Invasive, CPAP, VMV, PSV, PC-CMV, VC-CMV |
| Input Pressure | Up to 50 cmWC |
| Breath Rate | 5 – 45 BPM |
| I:E Ratio | 4:1 – 1:4 |
| Tidal Volume | 50 – 600 ml |
| PEEP | 0 – 30 cmWC |
| Pressure Support | Up to 60 cmWC |
| Sigh | Yes |
| FiO ₂ | Up to 100% |
| Tidal Volume | 50 – 600 mL |
| Peak Flow Rate | 60 LPM |
| Dual-use | Hospital Mode (with compressed air and O ₂ supply from hospital) Standalone (with compressor and air reservoir package) |
| Technology | Microprocessor based Intelligent Equipment |
| Display | 800 X 480 Full Graphics Color Display 32-bit color depth; > 200 Cd Illumination |
| Alarms | Audio Visual |
| Operator Interface | Touch-screen Interface (Optional Switches and Potentiometers) |
| Sensors | Flow, Oxygen and Pressure Sensors |
| Power Supply | 230V AC, 50Hz Optional 12V battery Backup for four (4) hours Power consumption – less than 40 watts |



Fig 1: Hospital Mode

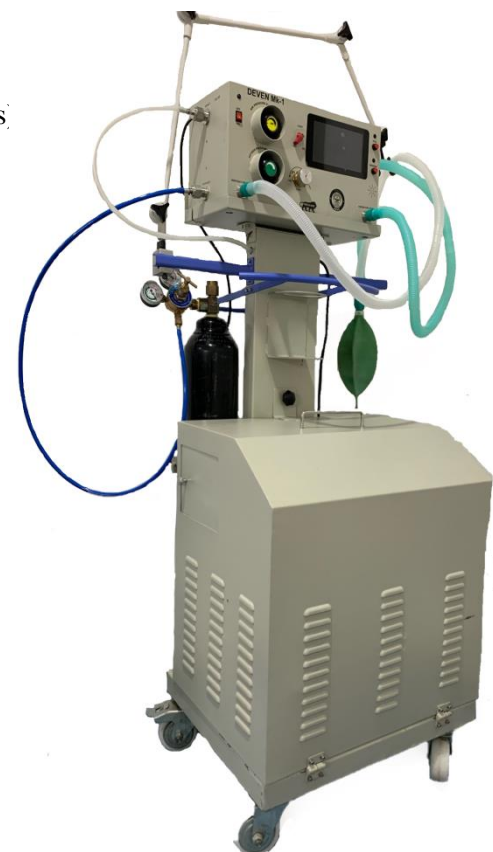


Fig 2: Standalone Mode