

VITAL Ventilator

'Designed by Jet Propulsion Laboratory, NASA, USA.'

BHARAT FORGE



BHARAT FORGE has a non-exclusive worldwide license from NASA JPL to manufacture and sell the NASA-designed ventilator.

FDA approval is received for use in patients requiring mechanical ventilation under emergency use authorization (EUA).



Why VITAL Ventilator?

VITAL Ventilator offers a simpler option for treating critical patients. It has the capability to handle greater than 80-90% of all ventilator needs while freeing up the more expensive high-end ventilators of an ICU.

Flexibility of the VITAL Ventilator allows for modification to be used in field hospitals & the setup and operation are extremely user-friendly.

Functions & Key Features: Includes numerous control parameters, audible alarms, display parameters, and ventilator settings.

Intended Patient Description

VITAL ventilator is unique, versatile and designed for acutely ill patients suffering from Acute Respiratory Distress Syndrome (ARDS). This subset of patients is generally characterized by needing low to moderate tidal volume at high breathing rate and a wide range of positive end-expiratory pressure (PEEP). The VITAL ventilator will satisfactorily meet the demands of those who require aggressive ventilatory support in a variety of clinical states, which may include low compliance, high resistance, hypoxia and hypercapnia.

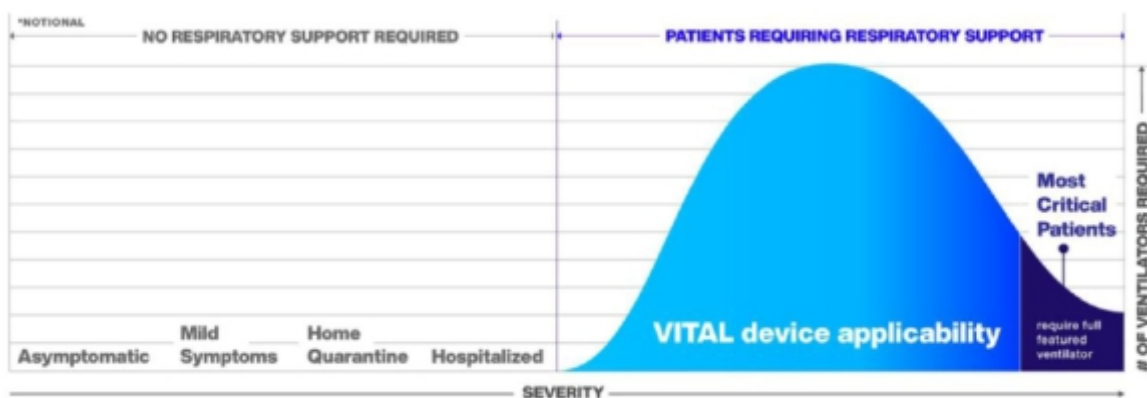
Key attributes of the intended patient include:

- Is ≥ 18 years old
- Has predicted body weight ≥ 50 kg
- Relatively stable vital signs, such that the patient is predicted to be on a single therapeutic regimen for the majority of a shift or longer
- May or may not be exhibiting spontaneous breathing efforts

VITAL Ventilator Key Data

Base Weight	10 Kg
Dimensions	300mm x 300mm x 250mm
Max Airway Pressure	50 cmH2O
Method of Triggering	Pre-set Rate or Assessed Breaths
Inspiratory Flow Range	70 L/min
Alarms	Audible alarms
AC Power Adaptor*	120/220V, 50/60Hz, 2A
Typical Max Current	2 amps
FiO2	21-100%
PEEP Alarm	5-35 cmH2O
Tidal Volume	150-800 mL
Back-Up Rate	4-40 bpm
Pinsp Alarm	Up to 35 cmH2O over PEEP
I Time Limit	0.1-3.0 sec
Respiratory Rate	5-50 bpm
Mode	Single mode, volume targeted, pressure limited, time limited assist/control mechanical ventilation

VITAL Device Applicability



Kalyani Center for Technological Innovation (KCTI) constantly pushes the limits of technology to unravel new possibilities allowing it to develop, adapt and drive new technologies, ideas and concepts. KCTI leverages the in-house engineering skills of Kalyani group in order to develop innovative strategies to create new and differentiated products.

KCTI is recognized by Department of Science and Technology (DSIR), Government of India. It is ISO17025 NABL certified.

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