Critical Care Ventilators

While these respiratory devices may appear unfamiliar, these machines are capable for critical care ventilation and ICU-level monitoring. Please reach out to respiratory care with further questions on operating these machines.

Drager Evita/Evita XL
- *Modes*: IPPV, IPPVAssist/CMV, CMVAssist – SIMV, SIMVPsupp – MMV, MMVPsupp – BIPAP, BIPAP ASB, BIPAP1 Assist / PCV+, PCV+Psupp, PCV+Assist – APRV – CPAP, CPAPASB / CPAP/Psupp, CPAP/Psupp – ILV
- Pressure/Flow/Volume waveforms
- Flow/Volume + Pressure/Volume loops
- Plateau Pressure Monitoring

GE Carescape R 860
- *Modes*: A/C, SIMV, PS, Bilevel, APRV
- *Breath Type:* Volume (VC), Pressure (PC), PRVC (VC+), NIV mode
- Software: Optimal PEEP,
- FRC clinical support tool Spirodynamics and transpulmonal pressure
- PEEP Titration and Vd/Vtt
- Up to 4 waveforms and loops can be displayed

Nihon Koden NKV-550
- *Indicated for continuous ventilation*
- *Mode:* Assisted/Control Mandatory Ventilation (A/CMV), Synchronized Intermittent Mandatory Ventilation (SIMV) or Spontaneous Ventilation (SPONT)
- Lung Protection software
- PEEP recruitment software

Puritan Bennett PB 980
- *Modes*: A/C, SIMV, PS, Bilevel
- *Breath Type:* Volume (VC), Pressure (PC), PRVC (VC+), NIV Mode
- Same as PB 840 with additional features: multiple graph views, adjustable patient data parameters
- Vt/IBW monitoring

Puritan Bennett PB 840
- *Modes*: A/C, SIMV, PS, Bilevel
- *Breath Type:* Volume (VC), Pressure (PC), PRVC (VC+), NIV mode
- Inspiratory/Expiratory hold functions for Pplat and Intrinsic PEEP monitoring
- Pressure/Flow/Volume waveforms
- Flow/Volume + Pressure/Volume loops

Servo I/Servo S/Servo U
- *Modes:* A/C, SIMV, PS, Bilevel
- *Breath Type:* Volume (VC), Pressure (PC), PRVC (Similar to VC+), NIV mode
- Inspiratory/Expiratory hold functions for Pplat and Intrinsic PEEP monitoring
- Pressure/Flow/Volume waveforms
- Flow/Volume + Pressure/Volume loops
- Servo U is a touchscreen device

Vyair Avea
- *Modes:* A/C, SIMV, PS
- *Breath Types*: VC, PC, PRVC, APRV (Bilevel)
- Pressure/Volume waveforms
- Flow/Volume loops

Vyair Vela
- *Modes:* A/C, SIMV, PS
- *Breath Types*: VC, PC, PRVC, APRV (Bilevel)
- Pressure/Volume waveforms
- Flow/Volume loops

Critical Care Capable Ventilators

While these respiratory devices may appear unfamiliar, these machines are capable of critical care ventilation. Please reach out to respiratory care with further questions on operating these machines.

Drager Carina

- Ideal for chronic ventilator patients
- Can be used in critical care setting on patients with **minimal ventilator requirements**

GE Aisys CS^2, GE Avance, GE Avance CS^2, GE Aisys Carestation, GE Carestation 650

- *Anesthesia machines*
- *Mode*: SIMV-PCVG
- Aisys CS^2 is the highest acuity model
- *Monitors vary:*
  - B650: critical care level
  - **B450: can be used for critical care monitoring, but there are limitations (3 leads instead of 5)**
- Carestation 650 is only at MSQ

GE Aestiva 3000 Carestation

- Similar to GE models above except for mode
- *Modes*: PC, VC, SIMV, PSV Pro
- *Monitors vary:*
  - B650: critical care level
  - **B450: can be used for critical care monitoring, but there are limitations**

Dräger Fabius GS/GS Premium Dräger Tiro

- *Anesthesia machines*
- *Mode*: SIMV + PCIMV
- *Monitors vary:*
  - Philips MP-50, MP-70, or MP-90
  - Both are critical care level

LTV 1000, LTV 1200

- Ideal for chronic ventilator patients
- Can be used in critical care setting on patients with minimal ventilator requirements
- *Modes*: A/C, Spontaneous
- *Breath type*: PC, VC
- Lacks graphics and waveforms
- Only displays numerical data
- **LTV 1000: PEEP valve must be added**

Versamed iVent

- Can be utilized as a critical care vent with limited settings options
- *Modes*: A/C, SIMV, Spontaneous
- *Breath Type*: VC, PC, PS
- Adaptive flow and I-time
- Waveform and loops available
- Audible and visual alarms
- MRI Conditional

Sub-Acute Ventilators

Ideally, these ventilators are meant for patients who are chronic ventilator patients or patients with lower ventilator requirements (PEEP < 8 CmH2O, FiO2 < 50%, Stable PIP). These ventilators may be used in the acute care settings however have **limited monitoring capabilities** (no graphics, non streaming, does not have external alarm capabilities**.**

Please reach out to respiratory care with any further questions on operating these machines.

Carefusion Revel Transport Vent
- Battery powered or DC power outlet
- *Mode:* A/C, SIMV, Spontaneous
- *Breath type:* VC, PC, PRVC, PS
- Airway pressure manometer (Numerical & LED)
- LED patient data display (Vt, VE, PIP, PEEP)
- Docking station or may be taken off dock for transport
- FiO2 21%-100%
- *Audible alarms:* PIP, Ve, RR

Pneupac Parapac Parapac Plus 310V
- Transport vents
- Pneumatically powered via high pressure O2 source (tank or wall)
- Single limb circuit, utilizes and exhalation valve
- PIP manometer gauge
- CMV VC mode
  - Parapac Plus has CPAP mode
- **Parapac** - utilizes a PEEP valve
- **Parapac Plus** – has built in PEEP via pressure line which can be dialed in (Max 20 CmH2o) .
- Audible high PIP alarms (can be difficult to hear outside the room)

Trilogy EVO, Trilogy 100 Trilogy 200
- Typically used as home ventilators
- *Modes*: A/C, SIMV, AVAPS-AE, NIV
- *Breath Type*: PC/VC, SIMV-PS
- Normally does not have a 50 PSI connection
- Must have O2 bleed in from a flow meter

Phillips V60 (Invasive Mode)
- Intended for spontaneously breathing patients who require assisted ventilation
- Requires different adapters to connect to either trach or ETT
- *Mode:* PCV
- Single limb circuit with bi-directional flow
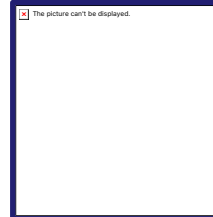
Vortran GO2 Disposable Vent
- Single patient use, MRI Conditional
- Flow powered; 100% and 50% FiO2
- PC or PS breaths
- PIP and PEEP monitoring
- 50 cmH2o pop off valve (safety valve)
- One way valve allows additional flow for spontaneously breathing patients
- Comes in three pieces
  - Tee piece (patient connection)
  - Pressure manometer
  - Modulator (2 dials, pressure and respiratory rate)