

# ReVel<sup>®</sup> ventilator specifications

## Transport ventilation

**Breath types** Volume control, pressure control, pressure regulated volume control (PRVC), pressure regulated volume support (PRVS), pressure support (PS), spontaneous

**Breath modes** Assist control, synchronized intermittent mandatory ventilation (SIMV), continuous positive airway pressure (CPAP) plus PS, noninvasive positive pressure ventilation (NPPV), apnea backup

### Physical dimensions

**Size** 11.3" (h) x 7.1" (w) x 3.3" (d) (28.7 cm x 18.0 cm x 8.4 cm)

**Weight** 9.5 lb (4.3 kg)

### Maneuver

Maneuver	Function
Expiratory hold	0–6 sec
Inspiratory hold	0–6 sec

### PTM patient and ventilator data

<b>Waveform</b>	PTM display only
<b>Loop</b>	PTM display only
<b>Trending</b>	24-hr trend of all patient monitors

### Maneuver monitor

Monitor	Range
Auto positive end-expiratory pressure (PEEP)	0–99 cmH <sub>2</sub> O
Delta pressure (dPaw)	1–99 cmH <sub>2</sub> O
Expiratory pressure (Pexp)	0–100 cmH <sub>2</sub> O
Plateau pressure (Pplat)	1–99 cmH <sub>2</sub> O
Static lung compliance (Cstatic)	1–999 mL/cmH <sub>2</sub> O

*Certified Airworthiness Release (AWR) for compliance with military transport aircraft*



### LED display

Display type	12 5x7 dot matrix
Resolution	49 bicolor manometer
Viewable size	7 segment



Control setting		
Control	Range	
Bias flow	3–10 LPM	
Breath rate	1–80 BPM	
Breath type	Volume Control, Pressure Control, PRVC	
Flow termination	10–40% of peak flow	
High pressure alarm delay	0, 1, 2 breaths	
Inspiratory time	0.3–9.9 sec	
Leak comp	On, Off	
LPP alarm control	All Breaths, Control Only	
NPPV	On, Off	
O <sub>2</sub> %	LPS, 21–100	
PEEP	0–20 cmH <sub>2</sub> O	
Pressure control	1–99 cmH <sub>2</sub> O	
PS	Off, 1–60 cmH <sub>2</sub> O	
Pressure trigger	1–20 below PEEP	
Pressure control flow termination	On, Off	
Rise time	Rise time setting	Commanded rise time (sec)
	1	0.100
	2	0.133
	3	0.178
	4	0.237
	5	0.316
	6	0.422
	7	0.562
	8	0.750
	9	1.000
Safety valve delta pressure	5–30 cmH <sub>2</sub> O	
Flow sensitivity	P, 1–9 LPM	
Tidal volume	50–2,000 mL	
Time termination	0.3–3 sec	
Ventilation mode	Assist/Control (A/C), SIMV, CPAP plus PS	
SBT O <sub>2</sub> %	LPS, 21–100	
SBT PEEP	0–20 cmH <sub>2</sub> O	

Control setting (continued)	
Control	Range
SBT PS	"- -" (off), 1–30 cmH <sub>2</sub> O
SBT time	15–120 min
SBT f/Vt display	"On," "Off"

Roll stand	
Physical dimension	
Height	40.9" (103.9 cm)
Weight	52 lb (23.6 kg)
Wheels	5 casters (2 lockable)
Ground clearance	2.75" (7 cm)

Adjustable alarm	
Alarm	Range
Apnea (interval)	10–60 sec
High pres	5–100 cmH <sub>2</sub> O
High f	1–120 BPM, or "- -" (off)
High PEEP	3–40 cmH <sub>2</sub> O, or "- -" (off)
High pulse	18–299 BPM, or "- -" (off)
High SpO <sub>2</sub>	80–99%, or "- -" (off)
Low FiO <sub>2</sub>	"- -" (off), or 18–95%
Low min vol	"- -" (off), or 0.1–99 L
Low pk pres	"- -" (off), or 1–60 cmH <sub>2</sub> O
Low PEEP	"- -" (off), or 1–20 cmH <sub>2</sub> O
Low pulse	"- -" (off), or 19–300 BPM
Low SpO <sub>2</sub>	"- -" (off), or 60–99%
SBT > f	15–80 BPM, or SBT Hi f off
SBT > f/Vt	70–900 BPM/L, or Hi f/Vt off
SBT < f	SBT Lo f off, or 1–40 BPM
SBT < f/Vt	Lo f/Vt off, or 5–90 BPM/L
SBT Hi PEEP	3–40 cmH <sub>2</sub> O, or "- -" (off)
SBT Lo PEEP	"- -" (off), or 1–20 cmH <sub>2</sub> O

Alarm system	
Audible volume	45–85 dBA

Procedure	
Procedure	Function
O <sub>2</sub> flush	Delivers a pre-selected increase in O <sub>2</sub> percentage for a pre-selected duration
Nebulization	Provides a flow of 6 LPM ± 10% O <sub>2</sub> to drive a nebulizer ( <i>optional</i> ); configurable as continuous or inspiration only
Spontaneous breathing trial (SBT)	During the SBT procedure, delivers ventilation in CPAP +PS mode with the selected SBT control settings in Extended Features; calculates f/Vt

Power		
<b>Input voltage</b>		
11–16 VDC		
<b>Removable battery pack</b>		
Type	Lithium-ion	
Duration	4-hr internal battery ( <i>hot swappable</i> )	
<b>Feature/spec.</b>	<b>Detail</b>	
Electrical	Nominal voltage output	10.8 VDC
	Nominal capacity	5,800 mAh ( <i>at 1C rate</i> ), min
	Charge rating	12.3 VDC, 2.0 A max
Charge time	Transition battery is fully recharged within 5 hr	
	Removable battery pack can be recharged within 8 hr	

Environmental	
<b>Storage</b>	
Temperature	-4 to 140 °F (-20–60 °C)
Humidity	5 to 95% relative, non-condensing
<b>Operating</b>	
Temperature	32–104 °F (0–40 °C)
Humidity	5–95% relative, non-condensing
<b>Altitude</b>	
Storage	50,000' max (11.6 kPa)
Operating	-2,300 to 10,600' (68–110 kPa)

Device monitor	
Monitor	Range
Measured Leak	0–30 LPM
O <sub>2</sub> Source Pressure	2–99.9 psi
Peak Expiratory Flow	0–190 LPM
Removable Battery Capacity Remaining	0–120%
Vent Usage Meter, non resettable	0–500,000 hr
Vent Usage Meter, resettable	0–500,000 hr

Patient monitor	
Monitor	Range
Airway Pressure (Paw)	-6 to +90 cmH <sub>2</sub> O measured at the patient wye
Exhaled Minute Volume (VE)	0–99.9 L
Exhaled Tidal Volume (Vte)	0–4,000 mL
Fraction of Inspired Oxygen (FiO <sub>2</sub> )	12–103% O <sub>2</sub>
I:E Ratio, Calculated (IEcalc)	1:99–4.0:1
I:E Ratio, Measured	1:99–45:1
Mean Airway Pressure (MAP)	0–99 cmH <sub>2</sub> O
Peak Inspiratory Flow	3–190 LPM measured at the patient wye
Peak Inspiratory Flow, Calculated	10–120 LPM
Peak Inspiratory Pressure (PIP)	0–120 cmH <sub>2</sub> O, or hPa
PEEP	0–99 cmH <sub>2</sub> O, or hPa
Pulse Oximetry signal strength	Green/Amber/Red
Pulse Rate	18–300 BPM
SBT f/Vt	0–999 BPM/L
SBT time remaining	00:00 ( <i>mm:ss</i> )–01:59:59 ( <i>hh:mm:ss</i> )
SpO <sub>2</sub>	0–100%
Spontaneous Breath Rate (Sp f)	0–120 BPM
Spontaneous Tidal Volume (SpVte)	0–4,000 mL
Total Breath Rate (f)	0–120 BPM

 **WARNING**—U.S. Federal Law restricts this device—sale by or on the order of a physician.

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