

eVolution® 3e Ultra⁽¹⁾

Mechanical Ventilator Datasheet

- Precise Breath Delivery Neonatal through Adult
- Invasive, Noninvasive and High Flow O₂ Therapy
- 15" screen, Comprehensive Graphics and Trending
- High Pressure and Internal Turbine
- Capnography ready, SpO₂ and Esophageal pressure Optional
- Target Tool, Lung Model, Maneuvers
- HL7 Compatibility and Virtual Report



General information

Patient Setup	Patient type	Adults, pediatrics, neonates
	Interface Types	Intubated, Mask, Cannula
	IBW and Height calculator	
	Humidification Selection	HME, Humidifier, and Test Lung
User Interface	Screen	LCD 15" / Touch Screen
	Graphics Display	3 Graphic Windows, each of them can show, 2-Loops, 3-Waveforms, 16 Monitored Data (GW1 32), graphical and tabular trends, Lung Tool or Target Tool
	Monitored Data Area	Configurable to display 6 or 10 Monitored Data
	Multiple Easy View Tabs	Main, Settings, Monitoring, Alarms, Configuration
Models	Air Source:	Flow Sensor:
	T – Internal Turbine	HW (Internal exhalation Flow Sensor, hot-wired technology)
	HP – High Pressure Air inlet	HW or DP (External Flow Sensor, differential-pressure technology)

Ventilation Performance

Modes of Ventilation and Breath Types		Adult	Pediatric	Neonatal
Intubated	Volume-controlled	V-CMV, V-SIMV	V-CMV, V-SIMV	V-CMV, V-SIMV
	Pressure-controlled	P-CMV, P-SIMV, PS	P-CMV, P-SIMV, PS	P-CMV, P-SIMV, PS
	Volume Targeted Pressure-controlled	PRVC-CMV, PRVC-SIMV, VS	PRVC-CMV, PRVC-SIMV, VS	VG (Volume Guarantee) ⁽²⁾
	Close loop Ventilation	Auto Control Ve target, Vte target	Auto Control Ve target, Vte target	
	Spontaneous Ventilation	CPAP, CPAP+PS, CPAP+VS	CPAP, CPAP+PS, CPAP+VS	CPAP + PS
	Dual Level PEEP	SPAP/APRV	SPAP/APRV	SPAP/APRV
Mask	Volume-controlled	V-CMV	V-CMV	
	Pressure-controlled	P-CMV, PS	P-CMV, PS	
	Volume Targeted Pressure-controlled	PRVC-CMV, VS/PRVC-PS	PRVC-CMV, VS/PRVC-PS	
	Spontaneous Ventilation	PS-S/T, VS/PRVC-PS	PS-S/T, VS/PRVC-PS	nIMV, nCPAP
	Dual Level PEEP	SPAP/APRV	SPAP/APRV	

⁽¹⁾ "ULTRA" name is a reference the larger 15 inch screen to differentiate it from the 12 inch screen ventilator, both within the eVolution series ventilators

⁽²⁾ DP Model Only

Cannula		HiFlow O2	HiFlow O2	HiFlow O2, nIMV, nCPAP,
Ventilation Setting		Adult	Pediatric	Neonatal
Standard Settings	Oxygen concentration	21 - 100%	21 - 100%	21 - 100%
	Respiratory rate	1 - 60 bpm	1 - 120 bpm	1 - 150 bpm
	PEEP / CPAP	0 - 50 cmH2O	0 - 50 cmH2O	0 - 50 cmH2O
	Tidal volume	100 - 3000 ml	20 - 500 ml	2 - 100 ml
	Pcontrol	1 - 100 cmH2O	1 - 80 cmH2O	1 - 60 cmH2O
	Psupport	0 - 100 cmH2O	0 - 80 cmH2O	0 - 60 cmH2O
	Peak flow (mandatory)	1 - 150 lpm	1 - 90 lpm	1 - 60 lpm
	I-Times	0.1 - 10.0 sec	0.1 - 10.0 sec	0.1 - 10.0 sec
Breath Triggering	Pressure triggering	-0.5 to - 20 cmH2O	-0.5 to - 20 cmH2O	-0.5 to - 20 cmH2O
	Flow triggering	0.2 - 25 lpm	0.1 - 15 lpm	0.1 - 10 lpm
High Flow O2	Continuous flow	1 - 80 L/min	1 - 50 L/min	1.0 - 12 L/min
	O2 concentration, FiO2	21 - 100 Vol%	21 - 100 Vol%	21 - 100 Vol%
Neo nCPAP	CPAP			2 to 12 cmH2O
Neo nIMV	Rate			1 - 40 bpm
	Insp Time			0.25 - 1.50 sec
	PEEP			2 to 10 cmH2O
	PIM			2 to 30 cmH2O
	Base Flow			1.0-12 L/min
Additional Settings	Rise time settings	1 - 20	1 - 20	1 - 20
	Exhalation sensitivity % (of spontaneous peak flow)	1 - 80%	1 - 80%	1 - 80%
	Plateau (insp pause)	0 - 2.0 sec	0 - 2.0 sec	0 - 2.0 sec
	PS Tmax	0.5 - 5.0 sec	0.5 - 5.0 sec	0.15 - 3.0 sec
Flow Delivering	Peak flow (spontaneous)	Up to 200 lpm	Up to 200 lpm	Up to 200 lpm
	Peak flow (Turbine Output)	Up to 300 l/min	Up to 300 l/min	Up to 300 l/min
	Base Flow (with leak comp off)	2.5 - 25 lpm	2.5 - 25 lpm	2.5 - 25 lpm

Monitored Data

Pressure	Ppeak PEEP PiMax PL max ⁽³⁾⁽⁴⁾ PL PEEP ⁽³⁾⁽⁴⁾	Pplateau Delta P P0.1/Pimax PesPeak ⁽³⁾⁽⁴⁾ PLPlat ⁽³⁾⁽⁴⁾	Auto PEEP P0.1 PTI ⁽²⁾⁽³⁾ PauxPeak ⁽³⁾⁽⁴⁾ Dpes ⁽³⁾⁽⁴⁾	Pmean Pmin PTP ⁽²⁾⁽³⁾ Auto PEEP es ⁽³⁾⁽⁴⁾
Volume, Time and Rate	Vte Vte/kg Ve Vte Sp. Ve Sp.	Vti Vti/kg Ve/kg Vte Sp/kg FiO2	Rate Ti Rate Sp. pFe RSBI	I:E / H:L Te Ti/Ttot PF Leak
Mechanics	Cstat Rinsp RCE WOBImp Clung ⁽³⁾⁽⁴⁾	Cdyn Rexp C20/C WOBV ⁽³⁾ Ccw ⁽³⁾⁽⁴⁾	E SI ⁽³⁾ Cdyn/kg WOBP ⁽³⁾⁽⁴⁾	Cstat/kg ⁽³⁾ Mech. Power ⁽³⁾ TTI ⁽³⁾⁽⁴⁾

⁽³⁾ Adult-Pediatric Patient Only

⁽⁴⁾ Require Pes-Paux Option

EtCO ₂ and SpO ₂ (optional)	EtCO ₂ Vd alv Vd/Vt phy PeCO ₂ VtiCO ₂	VCO ₂ / min Vd ana VteCO ₂ FetCO ₂ FiCO ₂	SpO ₂ Pulse PI SQI TcPO ₂	Valv / min Valv TcPCO ₂
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Real Time Graphics

Waveforms	Pressure / Time Flow / Time Volume / Time	Paux / Time ⁽³⁾⁽⁴⁾ Ptransp / Time ⁽³⁾⁽⁴⁾ Pes / Time ⁽³⁾⁽⁴⁾	PCO ₂ / Time FCO ₂ / Time Plethysmogram
Loops	Flow/Volume Pressure/Volume Pressure/Flow	PCO ₂ /Volume FCO ₂ /Volume Paux/Volume ⁽³⁾⁽⁴⁾ Paux/Flow ⁽³⁾⁽⁴⁾	Pes/Volume ⁽³⁾⁽⁴⁾ Pes/Flow ⁽³⁾⁽⁴⁾ Ptransp/Volume ⁽³⁾⁽⁴⁾ Ptransp/Flow ⁽³⁾⁽⁴⁾

Trend	Trend Data	74 monitored parameters and events
	Type	Tabular, Graphic
	Length	1 – 72hs

Alarms

User Configured	Prioritized Alarms	High, Medium and Low
	Auto set alarm feature 1000 Event log	
	Basic and advanced setting	
	Minute Volume (Ve)	High / Low
	Tidal Volume (Vte)	High / Low
	Respiratory Rate (RR)	High / Low
	Peak Pressure (Ppeak)	High / Low
	PEEP	High / Low
	PetCO ₂	High / Low
	SBT - RSBI	High / Low
	SBT - RR	High / Low
	Apnea	Off, 3 – 60 sec
	Vti Limit	Off, 0 – 3500 lm
	Leaks	20% - 100%

Maneuvers

	Inspiratory Hold Expiratory Hold Suction Support	PO.1 and PiMax VC (Vital Capacity) SBT (Spontaneous Breathing Trial)	Flow P/V _L Tool Pressure P/V _L Tool Step Tool
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Additional Features

	Apnea Backup Ventilation	User-selected breath type and settings
	Smart Nebulizer™	
	Smart Sigh™	
	Slope Analysis Trigger	
	SPAP Philosophy Options	Time, Cycle + Time, Cycle +I:E
	Automatic Leak Compensation	Up to 25 lpm to maintain a PEEP of up to 50 cmH ₂ O
	Target Tool for all ventilation modes	
	Lung Model	

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⁽⁴⁾ Require Pes-Paux Option

User Initiated Functions	Manual inspiration
	Alarm silence
	100% oxygen
	Standby

Interfaces and Communication

Interfaces	Ethernet
	Nurse call
	HDMI
	USB (Only for power support)
	RS232 – Interface with CO2 Sensor and Transcutaneous CO2 Monitor
	SpO2 – Sensor connector

HL7 Protocol Compatibility and Optional Remote Viewing System	
	CliniNet® HL7 Gateway™

Operating Data

Power Supply	AC power input	100 - 240 VAC (47 - 63Hz)
	Power consumption	120 VA (W)
Battery Backup	Standard internal battery	
	Type	Lithium-Ion
	Battery backup	4 Hours – T Models
DC Supply Input	External Battery socket	12V 168W 14A
Gas Supply	O2 pressure	2 – 6 BAR (29 – 87 psi)
	Air pressure (HP Model)	2 – 6 BAR (29 – 87 psi)
	Low Flow O2 inlet	180 l/min 0.3 – 2 BAR (5 – 29 psi)
High Performance Internal Technology	Integrated high performance turbine technology with included HEPA filter (Turbine Model)	
	Paramagnetic O2 Sensor (Optional)	

Physical Data

Ventilator Only	Width x depth x height	14 x 14 x 12 in or 35.5 x 35.5 x 30.5 cm
	Weight	39 lbs (17.7 kg) (Turbine Models)
		36 lbs (16.3 kg) (HP Models)
	Noise Level	≤ 55 dBa

Ordering Information

Ventilator	Internal Turbine System - Internal HW Flow Sensor	Part Number: EVL100500-T-L
	High Pressure Air System - Internal HW Flow Sensor	Part Number: EVL100500-HP-L
	High Pressure Air System - External DP Flow Sensor	Part Number: EVL100500-HP-P-L
Options	Option - SpO2	Part Number: EVM200846
	Option - Paux, Pes	Part Number: EVM200848
	Option - Paramagnetic O2 sensor	Part Number: EVM200847
	Volumetric Capnography Kit, VCO2	Part Number: EVM200107
	eVolution Deluxe III Cart	Part Number: EVM200217-03
	Flex Arm Assembly	Part Number: F710616



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