eVolution® 3e Ultra

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, SpoO2 and Esophageal pressure ready
- 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	**Gas Source:**	**Flow Sensor:**
	T – Internal Turbine	HW – Internal exhalation Flow Sensor, hot-wired technology

Ventilation Performance

Modes of Ventilation and Breath Types		**Adult**	**Pediatric**	**Neonatal**
Intubated, Mask	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	
	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	Intub: CPAP + PS Mask: nIMV, nCPAP
	Dual Level PEEP	SPAP	SPAP	SPAP

Cannula		HiFlow O2	HiFlow O2	nIMV, nCPAP, HiFlow O2
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	Peak flow (spontaneous)		Up to 200 lpm	
	Peak flow (Turbine Output)		Up to 300 l/min	
	Rise time settings		1 - 20	
	Exhalation sensitivity % (of spontaneous peak flow)		1 - 80%	
	Base Flow (with leak comp off)		2.5 - 25 lpm	
	Plateau (insp pause)		0 - 2.0 sec	
	PS Tmax	0.5 - 5.0 sec	0.5 - 5.0 sec	0.15 - 3.0 sec

Monitored Data

Pressure	Peak PEEP PiMax PL max* PL PEEP*	Pplateau Delta P P0.1/Pimax PesPeak* PLPlat*	Auto PEEP P0.1 PTI PauxPeak* Dpes*	Pmean Pmin PTP* Auto PEEP es*
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*	Cdyn Rexp C20/C WOBv* Ccw*	E SI* Cdyn/kg WOBp*	Cstat/kg* Mech. Power* TTI*

$EtCO_2$ and SpO_2	EtCO2 Vd alv Vd/Vt phy PeCO2 VtiCO2	VCO2 / min Vd ana VteCO2 FetCO2 FiCO2	SpO2 Pulse PI SQI TcPO2	Valv / min Valv TcPCO2

**Only for Adult pediatric patient*

Real Time Graphics

Waveforms	Pressure / Time Flow / Time Volume / Time	Paux / Time * Ptransp / Time * Pes / Time *	PCO2 / Time FCO2 / Time Plethysmograph
Loops	Flow/Volume Pressure/Volume Pressure/Flow	PCO2/Volume FCO2/Volume Paux/Volume * Paux/Flow *	Pes/Volume * Pes/Flow * Ptransp/Volume * Ptransp/Flow *

**Only for Adult pediatric patient*

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

Alarms

	Prioritized Alarms	High, Medium and Low
	Auto set alarm feature 1000 Event log	
	Basic and advanced setting	
User Configurated	Minute Volume (Ve)	High / Low
	Tidal Volume (Vte)	High / Low
	Respiratory Rate (RR)	High / Low
	Peak Pressure (Ppeak)	High / Low
	PEEP	High / Low
	PetCO2	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

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 60 lpm
	Weaning Target Tool for all ventilation modes	
	Lung Model	

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	
Turbine Model	Type	Lithium-Ion
	Battery backup	4 Hours
HP Model	Type	Lead Acid
	Battery backup	2 Hours
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 M)	
	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 with hotwire flow sensor	Part Number: EVL100500-T-L
Options	Option - SpO2	Part Number: EVM300302
	Option - PAux, Pes	Part Number: EVM300314
	Option - Paramagnetic O2 sensor	Part Number: EVM300257
	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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