



Two ventilators in one – a smart choice

Philips Respironics V680 Ventilator

Patient Types

Adult:	>20 kg
Pediatric:	5 to 20 kg

Settings

Single-limb Settings	Range
CPAP	4 to 25 cmH ₂ O
EPAP	4 to 25 cmH ₂ O
IPAP	4 to 40 cmH ₂ O
I-Time (Inspiratory Time)	0.30 to 3.00 secs
Ramp Time	Off, 5 to 45 min
Rate (Respiratory Rate)	4 to 80 BPM
Rise (Rise Time)	1 to 5
Triggering and cycling	Auto-adaptive (Auto-Trak+)
O ₂ % (Oxygen Percent)	21 to 100%
Apnea Mode (available in CPAP mode)	Allows apnea mode settings independent of primary mode
*C-Flex	Off, 1 to 3
*Max ΔP/min (AVAPS Max P change/min)	1.0 to 5.0 cmH ₂ O/min
*Max P (AVAPS max IPAP)	6 to 40 cmH ₂ O
*Min P (AVAPS min IPAP)	5 to 30 cmH ₂ O
*V _T (AVAPS Target Tidal Volume)	50 to 2,000 mL BTPS
*Max E	0 to 100 cmH ₂ O/L
*Max R	0 to 50 cmH ₂ O/L/s
*PPV%	0 to 100%
*Max P (PPV max pressure limit)	5 to 40 cmH ₂ O
*Max V (PPV max volume limit)	200 to 3,500 mL

*Optional

Settings (continued)

Dual-limb Settings	Range
V _T (Tidal Volume in VCV and PRVC modes)	50 to 2,000 mL BTPS
Rate (Respiratory Rate)	1 to 80 BPM
I-Time (Inspiratory Time)	0.30 to 5.00 secs
Rise (Rise Time)	1 to 5
I-Trig (Flow Trigger)	0.5 to 20 L/min, Off
E-Cycle (% of Peak Flow)	10 to 80%
Flow Pattern	Square, Descending Ramp
PC (Pressure Control Target above PEEP)	1 to 65 cmH ₂ O
PS (Pressure Above PEEP)	Off, 2 to 65 cmH ₂ O
PEEP (End Expiratory Pressure)	0 to 40 cmH ₂ O
Sigh (1.5 times Tidal Volume)	On, Off
O ₂ % (Oxygen Percent)	21 to 100%
Max P (PRVC maximum pressure limit)	3 to 65 cmH ₂ O
Max V (PRVC maximum volume limit)	55 to 2,500 mL
Min P (PRVC minimum pressure limit)	2 to 64 cmH ₂ O
Apnea Mode (available in PSV and SIMV modes)	Allows apnea mode settings

Modes

Single-limb Circuit

CPAP (Continuous Positive Airway Pressure)
S/T (Spontaneous with Timed Backup)
PCV (Pressure Control Ventilation)
Apnea mode (available in CPAP)
*AVAPS+ (Average Volume Assured Pressure Support)
*PPV (Proportional Pressure Ventilation)

PHILIPS

Modes (continued)

Dual-limb Circuit
A/C-VCV (Assist/Control-Volume Control Ventilation)
A/C-PCV (Assist/Control-Pressure Control Ventilation)
SIMV-VCV (Synchronized Intermittent Mandatory Ventilation-Volume Control Ventilation)
SIMV-PCV (Synchronized Intermittent Mandatory Ventilation-Pressure Control Ventilation)
PSV (Pressure Support Ventilation)
PRVC (Pressure Regulated Volume Control)
Apnea mode (available in SIMV and PSV)

Monitored Parameters

Patient Data	Range
O ₂ % (Oxygen Percent)	18 to 100%
PIP (Peak Inspiratory Pressure)	0 to 74 cmH ₂ O
PEEP (Positive End-Expiratory Pressure)	0 to 50 cmH ₂ O
EPAP (Expiratory Positive Airway Pressure)	0 to 50 cmH ₂ O
MAP (Mean Airway Pressure)	0 to 65 cmH ₂ O
Breath phase/trigger indicator	Spont, Support, Mand, Assist, Exhale
T _i /T _{TOT}	0 to 99%
I:E (Inspiratory to Expiratory Ratio)	9.9:1 to 1:9.9, and 1 to 99
Pt. Trig (Patient Trigger %)	0 to 100%
Te (Expiratory Time)	0.3 to 100 sec
Rate (Total Respiratory Rate)	0 to 99 BPM
Spont R (Spontaneous Respiratory Rate)	0 to 99 BPM
V _E (Total Minute Volume)	0 to 99 L/min BTPS
Spont V _E (Spontaneous Minute Volume)	0 to 99 L/min BTPS
VTI (Inspired Tidal Volume)	0 to 3,500 mL BTPS
VTE (Exhaled Tidal Volume)	0 to 3,500 mL BTPS
Spont VTE (Spontaneous Tidal Volume)	0 to 3,500 mL BTPS
Dyn C (Dynamic Compliance)	1 to 200 mL/cmH ₂ O
Dyn Ri (Dynamic Resistance, Inspiratory)	1 to 200 cmH ₂ O/L/s
Dyn Re (Dynamic Resistance, Expiratory)	1 to 200 cmH ₂ O/L/s
Dyn E (Dynamic Elastance)	5 to 1,000 cmH ₂ O/L
Dyn Pplat (Dynamic Plateau Pressure)	0 to 70 cmH ₂ O
RSBI (f/V _T) (Rapid Shallow Breathing Index)	0 to 999
Pt. Leak ("Unintentional" Leak)	0 to 200 L/min BTPS
Tot. Leak (Total Leak)	0 to 200 L/min BTPS

Waveforms Window

Pressure waveform	0 to 70 cmH ₂ O
Flow waveform	-240 to 240 L/min BTPS
Volume waveform	50 to 3,500 mL BTPS
F/V (flow/volume) Loop	
Flow:	+/-10 to +/-240 L/min
Volume:	50 to 3,500 mL
P/V (pressure/volume) Loop	
Pressure:	Above zero: 10 to 80 cmH ₂ O Below zero: 0 to -15 cmH ₂ O
Volume:	50 to 3,500 mL

Alarm Settings

Alarm	Range
Hi Rate (High Respiratory Rate)	5 to 90 BPM
Lo Rate (Low Respiratory Rate)	Off, 1 to 89 BPM
Hi V _T (High Tidal Volume)	50 to 3,500 mL
Lo V _T (Low Tidal Volume)	Off, 5 to 1,500 mL
Hi Spont V _T (High Spontaneous Tidal Volume)	50 to 3,500 mL
Lo Spont V _T (Low Spontaneous Tidal Volume)	Off, 5 to 1,500 mL
Hi Mand V _T (High Mandatory Tidal Volume)	50 to 3,500 mL
Lo Mand V _T (Low Mandatory Tidal Volume)	Off, 5 to 1,500 mL
HIP (High Inspiratory Pressure)	5 to 70 cmH ₂ O
LIP (Low Inspiratory Pressure)	Off, 1 to 60 cmH ₂ O
LIP T (Low Pressure Delay Time)	5 to 60 secs
Hi Leak	Off, 1 to 99 L/min
Low Leak (Single-Limb)	Automatic
Hi PEEP (pressure above set PEEP)	1 to 15 cmH ₂ O
Hi V _E (High Minute Volume)	Off, 0.2 to 99 L/min
Lo V _E (Low Minute Volume)	Off, 0.1 to 98.9 L/min
O ₂ Alarm (auto set (+/-6% of O ₂ setting))	On, Off
Apnea T (Apnea Interval Time)	Off, 1 to 60 sec

All dual-limb volume measurements and volume targets are circuit compliance compensated.

Other Settings

Setting	Range
Loudness (alarm volume)	1 to 10
Auto-volume escalation	On, Off
Brightness	1 to 5 relative scale
Exhalation port selection	DEP, Whisper Swivel, PEV, Other, None
Leak character selection	1, 2, 3, 4, Other
Screen lock	On, Off

Other Features

Lung Mechanics Maneuvers

Static C&R	
Static C:	1 to 200 mL/cmH ₂ O
Static E:	5 to 1,000 cmH ₂ O/L
Static R:	1 to 200 cmH ₂ O/L/s
Static Pplat:	0 to 70 cmH ₂ O
P 0.1 (P100)	0 to -50 cmH ₂ O
MIP (Maximal Inspiratory Pressure)	0 to -50 cmH ₂ O

Environmental

Temperature	
Operating conditions	5 to 40°C (41 to 104°F)
Storage conditions	-20 to 50°C (-4 to 122°F)

Humidity	
Operating conditions	15 to 95% (non-condensing)
Storage conditions	10 to 95% (non-condensing)

Barometric Pressure Operating Range

525 to 850 mmHg [approximately -51 to 1,951 m (-167 to 6400 ft) relative to sea level]

Dimensions



Weight (with battery installed)	27 lb (12.3 kg)
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Electrical	
AC voltage	100 to 240 VAC
AC frequency	50 to 60 Hz
AC power	300 VA
Battery (lithium-ion)	
Maximum system current draw:	11 A
Charge voltage:	+16.9 V maximum
Minimum operating time:	240 minutes under nominal conditions

Pneumatics	
High-pressure oxygen supply	2.76 to 6.00 bar / 276 to 600 kPa / 40 to 87 psig Flow: 175 SLPM
Air Supply	Integrated centrifugal-flow compressor
Exhalation cartridge (eSYS)	
Flow sensor:	Exhaled gas flow accuracy: +/- (0.1 SLPM + 5% of reading)
Diaphragm/seat area:	6.6 cm ²
Diaphragm/seat diameter:	29 mm

Oxygen Sensor	
Accuracy	+/-5% (calibrated)
T90 response	50 sec for V _T = 50 mL, 21 sec for V _T = 1,000 mL



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