



# 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 <sub>2</sub> O
EPAP	4 to 25 cmH <sub>2</sub> O
IPAP	4 to 40 cmH <sub>2</sub> 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 <sub>2</sub> (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 <sub>2</sub> O/min
*Max P (AVAPS max IPAP)	6 to 40 cmH <sub>2</sub> O
*Min P (AVAPS min IPAP)	5 to 30 cmH <sub>2</sub> O
*VT (AVAPS target tidal volume)	50 to 2,000 ml BTPS
*Max E	0 to 100 cmH <sub>2</sub> O/l
*Max R	0 to 50 cmH <sub>2</sub> O/l/s
*PPV%	0 to 100%
*Max P (PPV max pressure limit)	5 to 40 cmH <sub>2</sub> O
*Max V (PPV min volume limit)	200 to 3,500 ml

\*Optional

### Settings (continued)

Dual-limb Settings	Range
VT (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 5.00secs
Rise (rise time)	1 to 5
I-Trig (flow trigger)	0.5 to 20L/min, OFF
E-Cycle (% of peak flow)	10 to 80%
Flow Pattern	Square, Decelerating Ramp
PC (pressure control target above PEEP)	1 to 65 cmH <sub>2</sub> O
PS (pressure above PEEP)	Off, 2 to 65 cmH <sub>2</sub> O
PEEP (end expiratory pressure)	0 to 40 cmH <sub>2</sub> O
Sigh (1.5 times tidal volume)	On, Off
O <sub>2</sub> (oxygen percent)	21 to 100%
Max P (PRVC maximum pressure limit)	3 to 65 cmH <sub>2</sub> O
Max V (PRVC maximum volume limit)	50 to 2,500 ml
Min P (PRVC minimum pressure limit)	2 to 64 cmH <sub>2</sub> 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)

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## 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 <sub>2</sub> % (measured oxygen percent)	18 to 100%
PIP (peak inspiratory pressure)	0 to 74 cmH <sub>2</sub> O
PEEP (positive end-expiratory pressure)	0 to 50 cmH <sub>2</sub> O
EPAP (expiratory positive airway pressure)	0 to 50 cmH <sub>2</sub> O
MAP (mean airway pressure)	0 to 65 cmH <sub>2</sub> O
Breath phase/trigger indicator	Spont, Support, Mand, Assist, Exhale
Ti/Ttot	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
VE (total minute volume)	0 to 99L/min BTPS
Mand VE (mandatory minute volume)	0 to 99L/min BTPS
Spont VE (spontaneous minute volume)	0 to 99L/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 <sub>2</sub> O
Dyn Ri (dynamic resistance, inspiratory)	1 to 200 cmH <sub>2</sub> O/L/s
Dyn Re (dynamic resistance, expiratory)	1 to 200 cmH <sub>2</sub> O/L/s
Dyn E (dynamic elastance)	5 to 1,000 cmH <sub>2</sub> O/L
Dyn Pplat (dynamic plateau pressure)	0 to 70 cmH <sub>2</sub> O
F/VT (rapid shallow breathing index)	0 to 999
Pt. Leak ("unintentional" leak)	0 to 200L/min BTPS
Tot. Leak (total leak)	0 to 200L/min BTPS

## Waveforms Window

Pressure waveform	0 to 70 cmH <sub>2</sub> O
Flow waveform	-240 to 240L/min BTPS
Volume waveform	50 to 3,500 ml BTPS
F/V (flow/volume) Loop	
Flow:	+/-10 to +/-240L/min
Volume:	50 to 3,500 ml
P/V (pressure/volume) Loop	
Pressure:	Above zero: 10 to 80 cmH <sub>2</sub> O Below zero: 0 to -15 cmH <sub>2</sub> 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 VT (high tidal volume)	50 to 3,500 ml
Lo VT (low tidal volume)	OFF, 5 to 1,500 ml
Hi Spont VT (high spontaneous tidal volume)	50 to 3,500 ml
Lo Spont VT (low spontaneous tidal volume)	OFF, 5 to 1,500 ml
Hi Mand VT (high mandatory tidal volume)	50 to 3,500 ml
Lo Mand VT (low mandatory tidal volume)	OFF, 5 to 1,500 ml
HIP (high inspiratory pressure)	5 to 70 cmH <sub>2</sub> O
LIP (low inspiratory pressure)	OFF, 1 to 60 cmH <sub>2</sub> 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 <sub>2</sub> O
Hi VE (high minute volume)	OFF, 0.2 to 99L/min
Lo VE (low minute volume)	OFF, 0.1 to 98.9L/min
O <sub>2</sub> % measured (auto set (+/-6% of O <sub>2</sub> 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 <sub>2</sub> O
Static E:	5 to 1,000 cmH <sub>2</sub> O/L
Static R:	1 to 200 cmH <sub>2</sub> O/L/s
Static Pplat:	0 to 70 cmH <sub>2</sub> O
P0.1 (P100)	0 to -50 cmH <sub>2</sub> O
MIP (Maximal Inspiratory Pressure)	0 to -50 cmH <sub>2</sub> 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	
600 to 765 mmHg [approximately -51 to 1,951 m (-167 to 6400 ft) relative to sea level]	
Dimensions	



Weight (with battery installed)	27 lb (12.3kg)
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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 <sup>2</sup>
Diaphragm/seat diameter:	29 mm
Oxygen sensor	
Accuracy	+/- 5% (calibrated)
T90 response	50 sec for Vt= 50 ml, 21 sec for Vt= 1,000 ml



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**How to reach us**  
[www.philips.com/healthcare](http://www.philips.com/healthcare)  
[healthcare@philips.com](mailto:healthcare@philips.com)

**Product information**  
[www.philips.com/](http://www.philips.com/)