



VELA™ ventilator
NPPV

NOTE: The VELA™ ventilator quick tips card is not intended as a replacement for the operator's manual.

You must become completely familiar with the operator's manual before using the VELA ventilator.

VELA noninvasive positive–pressure ventilation (NPPV) modes

- **NPPV A/C** – NPPV with assist control ventilation
- **NPPV/SIMV** – NPPV with synchronized intermittent mandatory ventilation
- **NPPV CPAP PSV** – NPPV and continuous positive airway pressure (*demand breath*) with pressure support ventilation

Primary breath controls

Displayed control	Description	Range
Rate	Breaths per minute	2 to 80 BPM
Vt	Tidal volume	50 to 2,000 mL
Insp Pres	Inspiratory pressure	1 to 100 cmH ₂ O
Peak Flow	Peak inspiratory flow	10 to 140 L/min
Insp Time	Inspiratory time	0.3 to 10 sec
Insp Pause	Inspiratory pause	OFF, 0.1 to 2 sec
PSV	Pressure support	OFF, 1 to 60 cmH ₂ O
PEEP	Positive end-expiratory pressure	0 to 35 cmH ₂ O
Flow Trig	Inspiratory flow trigger	1 to 20 L/min
%O ₂	Percentage of oxygen*	21 to 100%
NPPV P _{insp}	NPPV inspiratory pressure	0 to 40 cmH ₂ O
NPPV PSV	NPPV pressure support ventilation	OFF, 1 to 40 cmH ₂ O

*Used only when connected to a high pressure oxygen source

Advanced breath controls in NPPV modes

- **PC Flow Cycle** – sets the percentage of peak inspiratory flow that terminates the inspiratory phase of a PC breath.
- **PSV Cycle** – sets the percentage of peak inspiratory flow that terminates the inspiratory phase of a PSV breath.
- **Bias Flow** – sets the continuous flow through the patient breathing circuit.
- **PSV Tmax** – controls the maximum inspiratory time of a pressure-supported breath.

Advanced control	Range	Primary control	NPPV A/C	NPPV SIMV	NPPV CPAP PSV
PC Flow Cycle	5 to 70%	Insp Time	•	•	
PSV Cycle	5 to 70%	NPPV PSV		•	•
Bias Flow	10 to 20 LPM	Flow Trig	•	•	•
PSV Tmax	0.3 to 3 sec	NPPV PSV		•	•

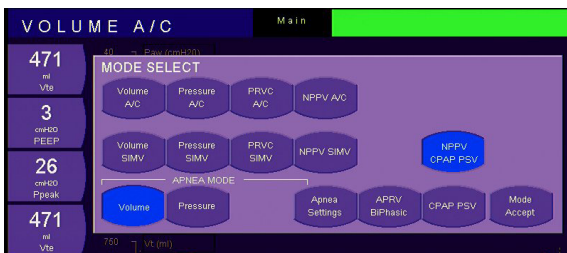
Leak compensation

In NPPV modes, the default setting is on. Leak compensation is up to 40 LPM, in addition to the bias flow (10 to 20 LPM, default 10 LPM).

VELA NPPV CPAP PSV set-up – for traditional noninvasive bilevel ventilation

To set up **VELA NPPV CPAP PSV**:

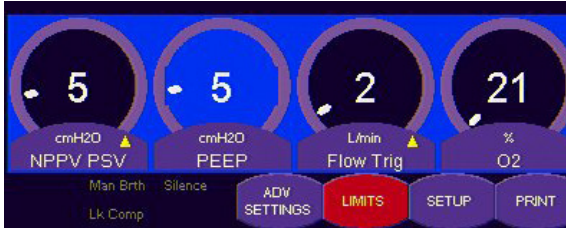
1. Press the **MODE** bar to access the **MODE SELECT** window.
2. Press **NPPV CPAP PSV**.



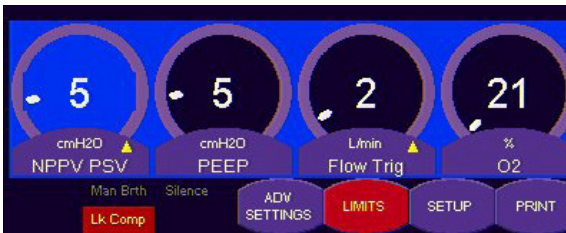
VELA NPPV CPAP PSV set-up (continued)

3. Set primary breath controls parameters:

- a. Set the **PEEP** to the desired pressure value. This setting is equivalent to **CPAP/EPAP** pressure.



- b. Set the **NPPV PSV** to the desired pressure value. This setting is the pressure value plus the set **PEEP** value that equals the ordered peak inspiratory pressure (P_{peak}) (e.g., if $PEEP = 5 \text{ cmH}_2\text{O}$ and $NPPV \text{ PSV} = 5 \text{ cmH}_2\text{O}$, then $P_{peak} = 10 \text{ cmH}_2\text{O}$).



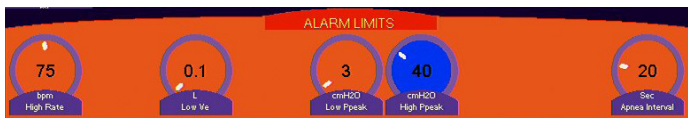
- c. Set the O_2 and flow trigger levels.
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4. Set the advanced settings:
 - a. Press **ADV SETTING** to access the **ADVANCED SETTINGS** window.
 - b. Press **NPPV PSV** to access the PSV (flow) Cycle and PSV T_{max} controls.
 - c. Set the **PSV Cycle**. Generally, set it at 45 to 50% to facilitate the transition to exhalation.
 - d. Set the **PSV T_{max}**. A setting between 1 and 1.5 seconds provides backup termination if large leaks occur during the **PSV Cycle**.

VELA NPPV CPAP PSV set-up (continued)



5. With **NPPV CPAP PSV**, the **APNEA MODE** backup settings only appear in the **MODE SELECT** window. Set the **APNEA MODE** backup:
 - a. Press Apnea Settings.
 - b. In **APNEA MODE**, press Volume or Pressure.
 - c. Set the primary breath controls for the **APNEA MODE** backup.

6. Set the alarms:
 - a. Press LIMITS to access the **ALARM LIMITS** window.
 - b. Press the desired alarm, and using the data dial, change the setting.
 - c. To accept the new alarm setting, press **ACCEPT**. To restore the previous setting, press **CANCEL**.
 - d. Press **LIMITS** to exit the **ALARM LIMITS** window.



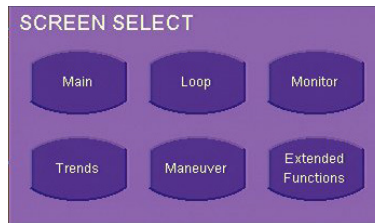
7. Press **Mode Accept** to begin ventilation with the new settings.

VELA monitoring options

The three screens that enable monitoring include:

- **Main** – displays 5 user-definable parameters plus 3 waveforms.
- **Monitors** – displays 15 user-definable parameters.
- **Trends** – displays up to 24 hours of monitored data, 4 histograms and 11 monitored values—all user defined.

To select the desired screen, press the **NPPV A/C** screen to access the **SCREEN SELECT** window.



Patient interface/mask

Specific to NPPV and a dual limb circuit:

- Has no exhalation ports—Is not a mask designed for CPAP or OSA
- Features labeling for noninvasive ventilation use.
- Eliminates ported masks or “whisper valves,” as leakage is not necessary for proper operation.

Mask fit

To ensure proper fit:

- Use the mask sizing template, which usually comes with the mask, to ensure the correct size.
- Do not overtighten the mask or headgear, as that can lead to pressure areas.
- Ensure that the facial contours are optimized to prevent leaks (*e.g., dentures are in place, and facial hair is minimal*).



GLOBAL HEADQUARTERS

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