

## Using the VORTRAN APM-Plus™ with a Respironics V60 Ventilator Technical Bulletin 2022-05-24

### Overview

- The VORTRAN APM-Plus can be used as a backup monitor for the Respironics V60 to provide alarms during ventilator malfunctions and circuit disconnects
- Continuous ventilators such as the V60 are monitored by setting the VORTRAN APM-Plus to “Resuscitator Mode.”
- The VORTRAN APM-Plus will provide pressure and respiratory rate accuracy within specifications of the Respironics V60 when the APM-Plus is connected in the patient proximal position.
- The alarm volume level of the VORTRAN APM-Plus is comparable to the Respironics V60. The alarms on the APM-Plus have the same volume level as the V60 set to level 1 loudness. The V60 has the option to increase the volume; therefore, when the V60 is turned up to maximum volume, the V60 is louder than the APM-Plus by approximately 18 dBA.

### Test Method

- The VORTRAN APM-Plus was connected to various points within the V60 circuit to determine the position with optimal accuracy.
- Readings were taken for various combinations of IPAP and EPAP control settings for comparison between the APM-Plus and V60.
- A sound level meter was used to determine the loudness of each respective device’s alarms.

Control Setting on V60	Average Respironics V60			Average VORTRAN APM-Plus		
	PIP (cm-H <sub>2</sub> O)	PEEP (cm-H <sub>2</sub> O)	Rate (BPM)	PIP (cm-H <sub>2</sub> O)	PEEP (cm-H <sub>2</sub> O)	Rate (BPM)
IPAP at 10, EPAP at 4	10	4	12	9	3	12
IPAP at 14, EPAP at 8	14	8	12	13	7	12
IPAP at 18, EPAP at 12	18	12	12	17	11	12
IPAP at 22, EPAP at 16	22	16	12	21	15	12

Alarm Volume Measurement at 1 Meter	Sound Level (dBA)
VORTRAN APM-Plus	68
Respironics V60: Level 1 Loudness (Min)	68
Respironics V60: Level 10 Loudness (Max)	85

### Connection Diagram – VORTRAN APM-Plus in Patient Proximal Position:

