

Ventilator Back-up Power

Ventilators are powered primarily by plugging the power cord into a wall outlet, otherwise known as AC Power. When there is a power outage, ventilators will not receive power from the wall outlets.

All PROP ventilators can be powered by AC power (power from wall outlets), internal battery, and DC power such as a battery (external to ventilator). When the ventilator stops receiving external AC or DC power, the ventilator will automatically switch to the internal battery.

It is important to have a back-up power source for your ventilator...in a power outage, your ventilator's internal batteries may run out before power is restored to your home.

This document provides information about available back-up power systems for PROP ventilators.

Clients Responsibility

PROP does not supply back-up power systems. It is the clients' responsibility to create their own Emergency Preparedness Plan, including a back-up power system. PROP will be happy to assist you with any questions you may have after reading through this document.

Emergency Preparedness Plan

All PROP clients MUST have an "Emergency Preparedness Plan" in-case of a power outage. This is very important for PROP clients who depend on their ventilator. You can get an estimate of how long the power outage may last by contacting BC Hydro at 1-888-769-3766. If BC Hydro expects the power to be out longer than your ventilator's internal battery would last, you may need to go somewhere not affected by the power outage.

Your emergency preparedness plan should include a facility with a back-up power source (ie: emergency power generator). You need to discuss their availability during your planning, but some possible solutions may include; Police Station, Fire Station, Hotel, or Hospital.



Important Note:

While this document outlines back-up power for ventilators, it is paramount to realize that the Ambu-Bag is your primary piece of emergency equipment. Your Ambu-bag needs to be functioning and ready to use at any moment. Perform daily checks to ensure everybody in your Support Team knows how to assist breathing with the Ambu-bag.

Options for Back-up Power

1) Manufacturer External Battery Packs

An External Battery Pack, designed and manufactured by the same company that makes your ventilator, is a device that contains a battery to power your ventilator in instances when AC power is unavailable (power outage, travel, etc).

As these external battery packs are constantly changing, if you'd like further information about which pack to purchase and where to get it, contact PROP and our staff will assist you in finding the external battery pack for your ventilator.



2) AC Backup Power Packs

AC Backup Power Pack: An AC Backup Power Pack should be kept charged to maximum capacity, so it is ready to power your ventilator in the event of a power outage. It can also be used for an extended period of time away from home where AC power is not available.

An AC Backup Power Pack is a portable device that contains a battery and electronics that produce AC power. There are different sizes and capacities of AC Backup Power Packs available, so you need to pick the right one for your needs. It is recommended you purchase one that you think will work, take it home and test it using your ventilator, and if it doesn't last long enough, exchange it for a more suitable AC Backup Power Pack.



Your AC Backup Power Pack must be rated more than 300 watts to power your ventilator. How long an AC Backup Power Pack will last depends on several factors:

- battery type/size
- age of the battery
- ventilator settings

*If you need assistance, please consult the PROP Biomed Dept. for selecting an appropriate size AC Backup Power Pack for you.

Some AC Backup Power Packs require monthly discharging to keep it in good condition. Please follow manufacturer instructions.

Table 1. AC Backup Power Packs

Examples of AC Backup Power Packs		Where to Purchase	Approx. Cost	Can Humidifier Be Used?
	MotoMaster Eliminator PowerBox	Canadian Tire	\$120 – 300	NO
	CyberPower Pure SineWave UPS System	Amazon.ca	\$160 – 250	YES

The length of time the AC Backup Power Pack lasts depends on the battery capacity and individual respiratory settings. To determine how long the AC Backup Power Pack will last:

- Charge the AC Backup Power Pack to maximum capacity. Then, unplug it from wall outlet so it is an independent power source.
- Plug your ventilator into one of power outlets of the AC Backup Power Pack and start using your ventilator. Note the time...this is your Start Time.
- Continue using the ventilator until it the ventilator switches from AC Power (AC Backup Power) to internal battery. Note the time...this is your End Time.
- The length of time your AC Backup Power Pack battery is expected to last is the time elapsed between the Start Time and the End Time.



CAUTION: As the AC Backup Power Pack’s battery ages and/or your respiratory needs change, you will receive varying back-up power time from the pack. Please repeat this test monthly.

3) Gas-Powered Generators

A portable generator is a gasoline operated device which produces electricity. You can plug your ventilator into its built-in AC power outlets. This is an effective back-up power source if there is outdoor space to operate a gas generator. You will need a heavy duty extension cord to plug your ventilator into the generator located outside.

WARNING: Gas-powered generators must be outdoors. Carbon monoxide poisoning is fatal.

Table 2. Gas Generators

Examples of Gas Generators		Where to Purchase	Approx. Cost	Can Humidifier Be Used?
	Champion Portable Gas Generator	Canadian Tire	\$400	YES
	Firman Gas-Powered Portable Generator	Costco Canada	\$300	YES



4) Vehicle Battery via 12V DC Power Source (aka Vehicle Accessory Port)

It is possible to power your ventilator with your vehicle's battery, via the vehicle's 12V DC power source. Your vehicle battery can power your ventilator while you travel to a location unaffected by the power outage. PROP has 12V car adaptors for some ventilators; please check with us to see if we have one for your ventilator.

If a 12V car adaptor is unavailable for your ventilator, you will need a DC to AC inverter, which you connect to your vehicle's 12V DC power source. As long as you have gasoline in your tank, and you keep your vehicle's battery charged, your car battery can provide power for your ventilator. (be sure to run your vehicle occasionally to charge the vehicle's battery)

WARNING: DO NOT leave your vehicle running in a garage. Carbon monoxide poisoning is fatal.
WARNING: DO NOT USE HUMIDIFIER IN A VEHICLE. There is a higher chance of water spilling into the ventilator unit when used in a vehicle. If water gets in the ventilator, it could damage the ventilator.

Table 3. DC to AC Inverters

Examples of DC to AC Inverters		Where to Purchase	Approx. Cost	Can Humidifier Be Used?
	MotoMaster Eliminator Power Inverter	Canadian Tire	\$150	YES
	Go Power! Pure Sine Wave Inverter	Amazon.ca	\$270	YES