Operation and Maintenance of the EPV200 Portable Ventilator
Applications of the EPV200

• The EPV200 Portable Ventilator is a gas powered electronically controlled mechanical ventilator, designed to provide emergency respiratory support by means of a face mask or an endotracheal tube inserted into a patient’s airway.

• The EPV200 is a volume controlled ventilator that delivers time-cycled constant flow breaths with assist-control function for spontaneous breathing.

• The EPV200 is an all-weather ventilator suitable for use at the scene of a medical incident, as well as in pre-hospital, intra-hospital, and inter-hospital transport.

• The EPV200 has been designed to withstand direct exposure to rain, up to 100G shock and vibration, and drops of up to 4 feet.

• The EPV200 ventilator is intended for use on patients weighing greater than 20kg, or 44 lbs.
### Overview of Controls and Settings

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Item #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tidal Volume Control</td>
<td>8</td>
<td>Anti-Suffocation Valve</td>
</tr>
<tr>
<td>2</td>
<td>Inspiratory Time Control</td>
<td>9</td>
<td>Patient Circuit Connection</td>
</tr>
<tr>
<td>3</td>
<td>BPM Control</td>
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<td>High Airway Pressure Alarm</td>
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<td>4</td>
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<td>BPM Display</td>
</tr>
</tbody>
</table>
Notes on Controls and Settings

• The EPV200 is powered by compressed gas but requires 2D cell batteries to power the controls and settings. This means that the EPV200 requires both batteries and a compressed oxygen source to run.

• It features electronic power management alarms to provide advance notice of low gas and low battery status via LED/audible alarms.

• The EPV200 has independent control of Tidal Volume, Inspiratory Time, and Breaths Per Minute.

• It features electronic ventilation alarms to provide notice of dangerous or ineffective ventilation.

• The EPV200 offers an Assist Control function, which will respond to a spontaneous breath by delivering the selected tidal volume of oxygen. It will also reset the breath timing to avoid breath stacking.

• The unit also features a digital manometer to monitor the peak airway pressure delivered during each breath.

On-board Digital Manometer
## Overview of Specifications

### Specifications - EPV200

<table>
<thead>
<tr>
<th>Setting Parameters</th>
<th>Power Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ventilation Mode:</strong> Assist-Control</td>
<td><strong>Power Source:</strong> Pneumatic with electronic controls and alarms</td>
</tr>
<tr>
<td><strong>Assist-Control:</strong> Triggers at less than -2 cm H₂O</td>
<td><strong>Power Input:</strong> Pneumatic. 40-87 psi O₂ and 2 D cell batteries</td>
</tr>
<tr>
<td><strong>Flow Rate:</strong> 12-36 LPM</td>
<td><strong>Internal Battery Type:</strong> D cell batteries</td>
</tr>
<tr>
<td><strong>Breathing Rate:</strong> Adjustable. 0, 5-30 breaths per minute</td>
<td><strong>Operating Time:</strong> Based on average adult settings of 10 BPM, 640 ml tidal volume, 2 second inspiratory time</td>
</tr>
<tr>
<td><strong>Tidal Volume:</strong> Adjustable. 200-1200 ml</td>
<td>- <strong>Oxygen:</strong> Dependent on source capacity. Approx. 65 minutes on D cylinder</td>
</tr>
<tr>
<td><strong>Inspiratory Time:</strong> Selectable. 1 or 2 seconds</td>
<td><strong>Battery Life:</strong> 48 hours of continuous use</td>
</tr>
<tr>
<td><strong>PEEP:</strong> External. 0-20 cm H₂O (with PEEP adapter)</td>
<td><strong>Physical Characteristics</strong></td>
</tr>
<tr>
<td><strong>FiO₂:</strong> 100%</td>
<td><strong>Dimensions:</strong> 3.5&quot; x 7.0&quot; x 9.3&quot; (88.9 mm x 177.8 mm x 236.2 mm)</td>
</tr>
<tr>
<td><strong>Manometer Readout:</strong> Digital. 0-99 cm H₂O</td>
<td><strong>Weight:</strong> 3.1 lbs. (1.4 kg) with batteries</td>
</tr>
<tr>
<td><strong>Airway Pressure Limit:</strong> Fixed. 60 cm H₂O</td>
<td><strong>Temperature Ranges:</strong></td>
</tr>
<tr>
<td><strong>Alarms</strong></td>
<td>- <strong>Operating:</strong> -15 to 122°F (-9 to 50°C)</td>
</tr>
<tr>
<td><strong>High Airway Pressure:</strong> Fixed. 45 cm H₂O</td>
<td>- <strong>Storage:</strong> -40 to 140°F (-40 to 60°C)</td>
</tr>
<tr>
<td><strong>Low Airway Pressure/Circuit Disconnect:</strong> Fixed. 9 cm H₂O</td>
<td><strong>Enclosure:</strong> ABS plastic with seals to prevent water ingress</td>
</tr>
<tr>
<td><strong>Low Source Gas:</strong> Fixed. Activates at approx. 40 psi (275 kPa)</td>
<td><strong>Shock Resistance:</strong> 30&quot; drop</td>
</tr>
<tr>
<td><strong>Low Battery</strong></td>
<td><strong>Vibration Resistance:</strong> 100 G</td>
</tr>
<tr>
<td>Activates when approx. 2 hours run time remain</td>
<td><strong>Water Resistance:</strong> Spill and rain resistant</td>
</tr>
</tbody>
</table>

*Alarm Volume:* Approx. 60 dB at 1 meter  
*Alarm Silence:* Yes. 110 Seconds
EPV200 Connections
Ventilator Connections

Oxygen Connection

- The EPV 200 must be connected to a 40-80 psi compressed oxygen source to operate.
- A single use disposable oxygen hose is supplied with this ventilator. Replacement disposable hoses may be purchased or the ventilator can be connected to the gas source with a reusable oxygen hose.
- The oxygen can be supplied via an oxygen tank using any oxygen pressure regulator with a DISS outlet. Alternatively, the ventilator can be run from a wall oxygen source by fitting the oxygen hose with the appropriate adaptor for the oxygen outlet style used in the facility.
- Connect a compressed oxygen source by attaching one end of an oxygen hose to the DISS oxygen inlet shown above, and then connecting the other end to an oxygen regulator, or hospital or ambulance oxygen outlet.
- Ensure that the oxygen source is pressurized and capable of delivering oxygen at 40-80 psi.
Ventilator Connections
Patient Circuit Connection

• To attach the breathing circuit, press the open end of a three-foot circuit with one-way valve firmly on to the 22 mm patient circuit connection.

• The circuit connection will accommodate any standard 22 mm ventilation circuit with a one-way valve, although the EPV200 has been tested and approved using the Allied three-foot breathing circuits with one-way valve.
Ventilator Connections

Patient Circuits

- Allied offers several affordable circuit configurations to meet the caregiver’s requirements.
- All circuits contain three feet of corrugated tubing, a one-way duck-bill valve, an expiratory port capable of accepting a PEEP valve or bacterial filter, and a swivel connector capable of accepting a mask or ET tube.
- Optional configurations incorporate a pre-packaged cuffed mask and/or a bacterial exhalation filter.
- The following part numbers represent the various pre-packaged configurations and accessory items offered for the EPV200.

<table>
<thead>
<tr>
<th>Ventilator Circuit Configurations for EPV200 Portable Ventilator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allied Part #</td>
</tr>
<tr>
<td>L599-140*</td>
</tr>
<tr>
<td>L599-190**</td>
</tr>
<tr>
<td>L599-130*</td>
</tr>
<tr>
<td>L599-180**</td>
</tr>
<tr>
<td>* circuit configuration designed for use on non-intubated or intubated patients. Mask can be removed to attach to ET tube. ** circuit configuration designed for use on intubated patients. Circuit attaches to ET tube directly.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Circuit Accessories Available From Allied Healthcare Products, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allied Part #</td>
</tr>
<tr>
<td>LPEEP†</td>
</tr>
<tr>
<td>L599-200</td>
</tr>
<tr>
<td>L595161-10</td>
</tr>
<tr>
<td>L595162-10</td>
</tr>
<tr>
<td>† PEEP valve includes 30mm-18mm adaptor to fit allied 18mm circuit exhalation port</td>
</tr>
</tbody>
</table>
Patient Circuit Connections

Stand alone accessories for patient circuits

PEEP Valve
This 0-20 cm H₂O disposable PEEP valve attaches to any of the mass casualty circuits.

Part # LPEEP

Disposable Cuffed Masks
These adult and child disposable cuffed masks can be fitted to any of our mass casualty circuits to provide greater flexibility in scope of treatment.

Part # L595-161-10, L595-162-10

Bacterial Exhalation Filter
The bacterial exhalation filter can be fitted to the exhalation port of any Allied mass casualty ventilator circuit to protect the caregiver from exposure to airborne pathogens. This filter will block 99.9% of pathogens without creating any noticeable resistance to exhalation.

Part # L599-200

Mask Restraint System
This easy-to-use disposable mask restraint system enables the caregiver to quickly attach the cuffed mask firmly over the patient's mouth and nose, freeing both hands to provide care. In the event of an airway obstruction, a simple tug of the elastic band disengages the restraint system, giving immediate access to the patient airway.

Part # 890113
Patient Circuit Connections

Fitting of PEEP Valve and Mask or ET Tube

• An External PEEP valve may be fitted to the expiratory port of the patient circuit, allowing adjustable PEEP from 0-20 cm H\textsubscript{2}O.

• The swivel connector on the three-foot Allied patient circuit features a 22 mm O.D.,15mm I.D. universal adapter that will accept a standard cuffed mask or endotracheal tube.

• To fit the mask or ET tube, press the open end of the swivel connector on the end of the circuit into the mask or tube inlet opening.

• The patient circuit also contains a removable access port. Ensure that this port is closed during ventilation to prevent loss of airway pressure.
Patient Circuit Connections

Overview of Allied Patient Circuit Connections

- **Exhalation Port**
  - Attach PEEP Valve or Exhalation Filter (if necessary)

- **Ventilator Connection**
  - Attach to ventilator

- **Patient Connection**
  - Attach circuit to mask or endotracheal tube

- **Access Port**
  - Remove plug or cap for access to airway

- **Press mask firmly over mouth and nose to create a positive seal**
Battery Installation

• For the EPV200 to function, two D cell batteries must be installed in the battery compartment. Two D cell batteries are supplied with the unit.
• The batteries will provide 48 hours of run time under ventilation parameters of 10 BPM and 2-second Inspiratory Time, and 640 ml Tidal Volume.
• To install the batteries, loosen the four brass thumb screws on the battery compartment cover.
• Remove the cover and install the batteries as indicated with the positive terminals facing toward the top of the unit as shown.
• Replace the cover with the operating instructions facing up, and tighten the thumb screws to create a positive seal of the rubber gasket.
Start-Up
Powering On the Unit

• Ensure that a 40-80 psi gas source is attached and pressurized, and the batteries are installed.
• Ensure that a patient circuit is installed (to prevent patient disconnect alarm from activating, the circuit output should be attached to a test lung or device that provides similar compliance to human lungs).
• Press the power button to power on the unit.
• The unit will go through a start-up mode in which all the LEDs and lights will flash, and then the unit will begin to operate according to the set parameters.
EPV200 Controls and Settings
Controls and Settings
Inspiratory Time Adjustment

- The Inspiratory Time is selectable at 1 second or 2 seconds, and color coded for ventilation of Child (Orange) or Adult (Black) patients.
- To change the Inspiratory Time setting, press the desired 1 SEC or 2 SEC button on the keypad.
- A green LED will indicate the selected inspiratory time.
Controls and Settings
Breaths Per Minute Adjustment

- Can be set at 0 or 8-20 Breaths Per Minute when inspiratory time is set to 2 Sec.
- Can be set at 0 or 8-30 Breaths Per Minute when inspiratory time is set to 1 Sec.
  - The 0 BPM setting allows the ventilator to function solely in Assist mode, and will only deliver the set tidal volume when a breath is initiated by the patient. If using this mode, ensure that the tidal volume knob is set to accommodate the necessary tidal volume required by the patient.

- To change the Breaths Per Minute Setting, press the up or down arrows on the keypad near the BPM label. The digital readout will display the setting.

- Recommended AHA guidelines for ventilation:
  - Adult: 8-12 BPM
  - Child: 12-20 BPM
Controls and Settings
Tidal Volume Adjustment

- The Tidal Volume is adjustable from 200-1200 ml and is color keyed for 1 Second or 2 Second ventilation.
- If your inspiratory time is set to 2 seconds (Adult), refer to the Black numerical markings and select the most appropriate tidal volume from the choices on the dial.
- If the inspiratory time is set to 1 second (Child), refer to the Orange numerical markings and select the most appropriate tidal volume from the choices on the dial.
- The following is a table of approximate settings for tidal volume by patient height, derived from ideal body weight with oxygen delivery at 10ml/Kg.

This table is an approximation for reference only. Refer to direction of a physician or medical professional for appropriate settings.

<table>
<thead>
<tr>
<th>Height Adult Male (in feet' and inches&quot;)</th>
<th>4' 8&quot;</th>
<th>4' 11&quot;</th>
<th>5' 3&quot;</th>
<th>5' 6&quot;</th>
<th>5' 10&quot;</th>
<th>6' 1&quot;</th>
<th>6' 5&quot;</th>
<th>6' 8&quot;</th>
<th>6' 11&quot;</th>
<th>7' 3&quot;</th>
<th>7' 6&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height Adult Female (in feet' and inches&quot;)</td>
<td>4' 10&quot;</td>
<td>5' 1&quot;</td>
<td>5' 5&quot;</td>
<td>5' 8&quot;</td>
<td>6' 0&quot;</td>
<td>6' 5&quot;</td>
<td>6' 8&quot;</td>
<td>6' 10&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximate Tidal Volume Setting</td>
<td>400</td>
<td>480</td>
<td>560</td>
<td>640</td>
<td>720</td>
<td>800</td>
<td>880</td>
<td>960</td>
<td>1040</td>
<td>1120</td>
<td>1200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Height Child Male (in feet' and inches&quot;)</th>
<th>3' 11&quot;</th>
<th>4' 1&quot;</th>
<th>4' 2&quot;</th>
<th>4' 4&quot;</th>
<th>4' 6&quot;</th>
<th>4' 8&quot;</th>
<th>4' 9&quot;</th>
<th>4' 11&quot;</th>
<th>5' 1&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height Child Female (in feet' and inches&quot;)</td>
<td>4' 1&quot;</td>
<td>4' 3&quot;</td>
<td>4' 4&quot;</td>
<td>4' 6&quot;</td>
<td>4' 8&quot;</td>
<td>4' 10&quot;</td>
<td>4' 11&quot;</td>
<td>5' 1&quot;</td>
<td>5' 3&quot;</td>
</tr>
<tr>
<td>Approximate Tidal Volume Setting</td>
<td>200</td>
<td>240</td>
<td>280</td>
<td>320</td>
<td>360</td>
<td>400</td>
<td>440</td>
<td>480</td>
<td>520</td>
</tr>
</tbody>
</table>
Safety Alarms

- The EPV200 features the following alarms:
  - High airway pressure
  - Low airway pressure
  - Low battery (visual alarm only)
  - Low Source Gas

- All alarms on the EPV200 are pre-set and non-adjustable.
- Alarms are signaled both audibly and visibly except for the low battery alarm, which provides only a visible alarm signal to conserve battery power.
- When an alarm is activated a 60 Db audible alarm will sound, and the appropriate red alarm LED will illuminate, signaling the type of alarm activated.
- Audible alarms can be silenced for 110 seconds by pressing and holding the selected inspiratory time button for 3 seconds (the one that has a green LED).

60 Db Alarm Tone  Flashing Alarm Status LEDs
Safety Alarms

Alarm Details

• High Airway Pressure Alarm (audible/visual):
  – Activates at 45 cm H₂O, indicating that the patient airway is obstructed or lungs have become non-compliant. Check the connections and airway.
  – Will sound a consistent tone and the High Airway Pressure LED will illuminate.
  – Note that the EPV200 features a safety pressure relief that will limit airway pressures to less than 60 cm H₂O, to prevent damage to the lungs.
  – This alarm is automatically cleared when 25 seconds pass without a high airway pressure being detected.
  – This alarm can be silenced for 110 seconds by pressing and holding the selected inspiratory time button for 3 seconds (the one that has a green LED).
Safety Alarms

Alarm Details

• Low Airway Pressure Alarm (audible/visual):
  – Activates if the airway pressure drops below 9 cm H\textsubscript{2}O for >15 seconds
  – This could indicate a circuit disconnect, a leak in the fit of the mask or ET tube, or an open access port in the circuit. Check the connections.
  – Will sound a consistent tone and the High Airway Pressure LED will flash.
  – Note that the digital manometer readout will also display the low airway pressure.
  – The alarm will clear when airway pressure exceeds 9 cm H\textsubscript{2}O.
  – This alarm can be silenced for 110 seconds by pressing and holding the selected inspiratory time button for 3 seconds (the one that has a green LED).
Safety Alarms

Alarm Details

- Low Source Gas Alarm (audible/visual):
  - Activates between 40 psi and 35 psi (275 to 241kPa) source pressure, indicating that the gas source is critically low and supplemental compressed gas should be sought immediately. The run time remaining depends on the size of the cylinder used, but in most cases is less than one minute remaining.
  - It will sound a consistent tone and the Low Source Gas LED will illuminate.
  - The alarm will clear when source gas pressure is restored to greater than 40 psi.
  - Should the source gas fall below 35 psi, the unit may cease to function.
Safety Alarms
Alarm Details

• Low Battery Alarm (visual only):
  – Activates when there are less than 2 hours of battery life remaining under continuous use.
  – There is no audible alarm; however, the Low Battery LED will illuminate indicating that the batteries should be replaced.

Low battery if illuminated (visual alarm only)
Spontaneous Breathing
Assist Control Function

• Should the patient begin to breathe spontaneously, the EPV200 will sense this breath being taken, and deliver a breath at the set Tidal Volume and Inspiratory Time.
• The breath assist function is activated when approximately -2 cm H₂O is sensed through the patient circuit.
• The spontaneous breath will reset the breath timing and continue providing breaths at the set breath per minute rate to prevent back to back delivered breaths. This is the anti-breath stacking feature.
Spontaneous Breathing
Assist Control Function

- The gas flow rate delivered to the patient during a spontaneous breath is based on the set Tidal Volume selection and inspiratory time. The table below provides an overview of the approximate flow rate delivered according to the set Tidal Volume and Inspiratory Time.

<table>
<thead>
<tr>
<th>Tidal Volume Setting</th>
<th>Approximate Flow (LPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>It = 1 second</td>
</tr>
<tr>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>240</td>
<td>480</td>
</tr>
<tr>
<td>280</td>
<td>560</td>
</tr>
<tr>
<td>320</td>
<td>640</td>
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<tr>
<td>360</td>
<td>720</td>
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<td>360</td>
<td>720</td>
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<td>360</td>
<td>720</td>
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<tr>
<td>400</td>
<td>800</td>
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<tr>
<td>440</td>
<td>880</td>
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<tr>
<td>480</td>
<td>960</td>
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<tr>
<td>520</td>
<td>1040</td>
</tr>
<tr>
<td>560</td>
<td>1120</td>
</tr>
<tr>
<td>600</td>
<td>1200</td>
</tr>
</tbody>
</table>
Spontaneous Breathing

Anti-Suffocation Valve

- Should the patients demand during a breath exceed the gas flow rate, the additional demand will be supplied with ambient air via the anti-suffocation valve located in the breathing circuit connection fitting. Do not occlude this valve during operation.

- When additional flow is demanded during a spontaneous breath, the resistance provided through the anti-suffocation valve is minimal. The following table indicates the inspiratory resistance at different flow rate demands in excess of the set tidal volume.

<table>
<thead>
<tr>
<th>Demanded inspiratory flow rate (LPM) above delivered tidal volume.</th>
<th>15</th>
<th>30</th>
<th>45</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspiratory Resistance (cm H₂O)</td>
<td>0.6</td>
<td>1.7</td>
<td>3.3</td>
<td>5.1</td>
</tr>
</tbody>
</table>
Power Management
EPV200 Run Times

• The EPV200 run time is dependent on the amount of source gas present and limited by the battery life.

• Two D cell batteries at full capacity will run the EPV200 continuously for 48 hours at 10 BPM, 2 second Inspiratory Time and 640 ml Tidal Volume. The batteries are standard Alkaline type and replacement of the batteries will provide an additional 48 hours of run time.

• If the batteries are depleted to a point in which the unit cannot provide effective ventilation, the EPV200 will close the delivery solenoid to stop gas flow, and stop delivering breaths, resulting in an alarm.

• This shut-down sequence will be preceded by redundant visible/audible alarms to provide advance notice to locate and replenish the supplies.
Power Management
EPV200 Run Times (continued)

• The EPV200 does not vent or consume oxygen during normal operation, therefore the run time of the unit from the source gas is directly related to the minute volume of oxygen per the Tv, It, and BPM selections.

• As a reference, the following table indicates the approximate run times for one EPV200 at 10 BPM, and 640 ml tidal volume.

<table>
<thead>
<tr>
<th>Cylinder Size</th>
<th>Capacity (Liters)</th>
<th>Approximate Run Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>D Cylinder</td>
<td>425</td>
<td>65 minutes</td>
</tr>
<tr>
<td>Jumbo D Cylinder</td>
<td>647</td>
<td>99 minutes (1.5 hours)</td>
</tr>
<tr>
<td>E Cylinder</td>
<td>684</td>
<td>105 minutes (1.75 hours)</td>
</tr>
<tr>
<td>M Cylinder (ambulance)</td>
<td>3454</td>
<td>531 minutes (8.75 hours)</td>
</tr>
<tr>
<td>Hospital Oxygen Outlet</td>
<td>Virtually unlimited</td>
<td>48 hours before battery replacement is needed</td>
</tr>
</tbody>
</table>
Initial Operation Procedure
Initial Operation and Check-Out Procedure

The unit should be checked for proper operation upon receipt as well as before each use. The following procedure can be performed upon receipt and after cleaning to prepare the unit for the next use.

• Install the batteries.

• Set the ventilator to the following settings:
  – BPM = 10
  – Tidal Volume = 640
  – Inspiratory Time = 2 seconds

• Connect a 50 psi oxygen source to the unit, pressurize the hose, and turn the power on; it should begin to cycle.

• After 20 seconds confirm that the low airway pressure alarm has sounded and the low airway pressure LED is flashing.
Initial Operation and Check-Out Procedure

• Let the vent cycle for 15 seconds.

• Confirm that the breath delivery alarm LED is flashing and an audible alarm has sounded, indicating that the low airway pressure alarm has tripped.
  – Press and hold the 2 sec Inspiratory Time button for 3 seconds to silence the alarm for 110 seconds.

• Using a stop watch, count the number of breaths delivered in one minute (60 seconds).
  – Confirm that between 9 and 11 breaths have been delivered.
  – Confirm that the inspiratory time is significantly shorter than the expiratory time. (At the settings noted above, the ventilator should provide a 2.0 second inspiratory time and a 4.0 second expiratory time)
Initial Operation and Check-Out
continued

• Attach a 3 foot piece of corrugated tubing (or use the patient circuit) to the patient circuit connection port and occlude the patient end of the circuit with the palm of your hand to create pressure in the vent circuit.
  – Confirm that the high airway pressure alarm LED is illuminated and an audible alarm has sounded.
  – Confirm that the airway pressure does not exceed 60 cm H$_2$O by monitoring the airway pressure display on the face of the EPV200 ventilator. The airway pressure should read approximately 45 cm H$_2$O.
  – Press and hold the 2sec Inspiratory Time button for 4 seconds to silence the alarm for 110 sec.

• Turn the source gas off.
  – Confirm that the Low Source Gas LED display is illuminated and an audible alarm has sounded.
  – Press and hold the 2 sec Inspiratory Time button for 4 seconds to silence the alarm for 110 seconds.
Initial Operation and Check-Out
continued

• Press the power button to turn the power off, remove the oxygen hose and corrugated tubing from the unit, and store the unit for future use.

Should the unit fail any of these tests contact Allied Healthcare Products, Inc., Technical Support Center at 1-800-411-5136 for assistance.
Routine Maintenance
Routine Maintenance

Cleaning and Disinfecting

• The EPV200 ventilator should be cleaned and disinfected after each use.
  – Wipe the unit down with a damp rag containing a mild cleaning solution to remove any residue from the surface.
  – Once the residue has been removed, the unit should be wiped with isopropyl alcohol or a cold disinfecting solution to kill bacteria.
  – The unit should then be wiped down with water to remove any film left by the cold disinfecting solution.
  – Make sure the unit is dry before putting the unit away.

• The following is a list of tested disinfecting solutions:

  • Isopropyl Alcohol: 70% IPA
  • Alconox: 1 tablespoon Alconox to 1 gallon H₂O
  • Cetylçide: 2 tablespoons Cetylçide to 1 gallon H₂O
  • Bleach: 10% bleach in H₂O
Routine Maintenance

- The EPV200 should be checked annually to ensure proper function using the calibration procedure noted in the instruction manual.

- Batteries should be checked regularly and replaced if they are beyond the expiration date on the battery. Replace with standard D cell alkaline batteries.

- After 5 years, or if annual calibration fails, the EPV200 should be serviced by an authorized repair technician.

For technical assistance or to schedule service, contact Allied Healthcare Products, Inc. Technical Support Center at 800-411-5136.
We hope this guide has prepared you to properly and safely use and maintain your EPV200 portable ventilator. If you have additional questions or require technical assistance, please contact our Technical Support Center.

Technical Support Contact Information

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800-411-5136