Setting up the ventilator for use

1. Connect ventilator to oxygen supply.
2. Install oxygen analyzer.
3. Connect ventilator to AC power.
4. Install patient circuit.
5. Connect remote alarm if applicable.
6. Connect external devices if applicable.
7. Check battery status by observing Battery LED.

During ventilation

**Alarm settings**

- HI Rate
- HI Vt
- HIP
- Lo Vt
- LO Rate
- LIP
- LIP T

**Modes**

- CPAP
- BIPAP
- PSV

**Alarm LED**

- Flashes when battery is charging
- On continuously when battery is charged
- Off when ventilator is running on battery, when ventilator is off and AC power is not connected, or when the battery generates an error or fails.

**Navigation ring**

- Accept button

**Proximal pressure port**

- Ventilator outlet (To patient)

**Alarm LED**

- Flashes for a high-priority alarm
- On continuously for a Vent Inoperative alarm

**Battery (charged) LED**

- Flashes when battery is charging
- On continuously when battery is charged
- Off when ventilator is running on battery, when ventilator is off and AC power is not connected, or when the battery generates an error or fails.

**Help button**

- Silences alarms
- Resets alarms
- Shows that an alarm is active. Touch to open or close Alarms/ Messages list.
- Crossed-out messages indicate autoreset alarms.
Verifying ventilator operation

**WARNING:** Always verify ventilator operation before placing a patient on a ventilator. If the ventilator fails any verification steps, remove it from clinical use immediately. Do not use the ventilator until necessary repairs are completed and the ventilator passes verification.

**WARNING:** To reduce the risk of power failure to the ventilator, pay close attention to the battery's charge level. The battery's operation time is approximate and is affected by ventilator settings, discharge and recharge cycles, battery age, and ambient temperature. Battery charge is reduced at low ambient temperatures or in situations where the alarm is continuously sounding.

**Note:** If the ventilator has a backup battery, the battery must be adequately charged to verify operation. Recharge as necessary before verifying operation.

**Note:** The backup batteries are intended for short-term use only. They are not intended to be a primary power source.

**Note:** We recommend that the ventilator's batteries be fully charged before you ventilate a patient. If the batteries are not fully charged and AC power fails, always pay close attention to the level of battery charge.

**WARNING:** To prevent possible patient injury, always return alarm settings to hospital-standard values after verifying ventilator operation.

The ventilator performs a self-check during start-up and continuously during operation. Alarm functionality is verified by this self-check. You may also want to run alarm tests to demonstrate the alarms’ operation.

### Running alarm tests

<table>
<thead>
<tr>
<th>Do or observe...</th>
<th>Verify...</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Power on the ventilator. The ventilator automatically runs a test of the backup audible alarm followed by the primary alarm.</td>
<td>You hear tones from both the backup alarm (high pitch) and the primary alarm (beep).</td>
</tr>
<tr>
<td>2. Create a patient alarm, such as a disconnect alarm.</td>
<td>Proper alarm is annunciated (audio, visual, flashing, alarm LED, and, if applicable, remote alarm). Ensure the volume of the audible alarm is appropriate for the environment in which it will be used.</td>
</tr>
<tr>
<td>3. Resolve the alarm condition and manually reset the alarm.</td>
<td>• The High Inspiratory Pressure alarm is activated. • The ventilator cycles into exhalation. • Pressure falls to 6 cmH₂O (the EPAP level).</td>
</tr>
<tr>
<td>4. If the backup battery is installed, disconnect the ventilator from AC power while the ventilator is running. If the backup battery is not installed, go to the next step.</td>
<td>• The ventilator switches over to battery power (battery symbol in right-hand corner of screen is displayed). • The audible alarm sounds intermittently.</td>
</tr>
<tr>
<td>5. Reconnect the ventilator to AC power.</td>
<td>The alarm resets.</td>
</tr>
<tr>
<td>6. Raise the Hi VT alarm setting above the displayed, measured VT.</td>
<td>The Low Tidal Volume alarm is activated.</td>
</tr>
<tr>
<td>7. Turn the Lo VT alarm setting OFF.</td>
<td>The alarm resets.</td>
</tr>
<tr>
<td>8. Disconnect the test lung.</td>
<td>The Patient Disconnect alarm is activated.</td>
</tr>
<tr>
<td>9. Reconnect the test lung.</td>
<td>• The alarm resets. • The ventilator automatically resumes ventilation.</td>
</tr>
<tr>
<td>10. Disconnect the patient circuit (including bacteria filter) from the ventilator outlet and block the ventilator outlet.</td>
<td>The Patient Circuit Occluded alarm is activated.</td>
</tr>
<tr>
<td>11. Unblock the outlet, and reconnect the circuit.</td>
<td>• The alarm resets.</td>
</tr>
</tbody>
</table>