



DEVILBISS® iGo™ PORTABLE OXYGEN SYSTEM

SERVICE MANUAL FOR QUALIFIED SERVICE PERSONNEL ONLY



For Product
Numbers:
306 Series

CAUTION-Federal (U.S.A.) law restricts this device to sale by or on the order of a physician.



DANGER – NO SMOKING

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IMPORTANT SAFEGUARDS

When using electrical products, especially when children are present, basic safety precautions should always be followed. Read all instructions before using. Important information is highlighted by these terms:

DANGER Urgent safety information for hazards that will cause serious injury or death.

WARNING Important safety information for hazards that might cause serious injury.

CAUTION Information for preventing damage to the product.

NOTE Information to which you should pay special attention.

Important safeguards are indicated throughout this guide; pay special attention to all safety information.

Refer to the A-306 or D-306 Instruction Guide for iGo set up and operation.



**DANGER
NO SMOKING**

READ ALL INSTRUCTIONS BEFORE USING.

SAVE THESE INSTRUCTIONS

DANGER

- **DANGER - NO SMOKING**
- **Oxygen causes rapid burning. DO NOT SMOKE WHILE SERVICING YOUR DEVILBISS OXYGEN EQUIPMENT.** Keep matches, cigarettes, burning tobacco and candles away from the area in which the system is operated or stored. Do not operate in rooms heated by paraffin or portable gas heaters.
- **To reduce the risk of fire, burns, or injury to persons: Oxygen, though non-flammable, vigorously supports and accelerates burning of any flammable material. High concentrations of oxygen can cause rapid burning. Service and operate the equipment in a well-ventilated area.**
- **Keep the iGo at least 5 feet (1.6 m) from hot, sparking objects or naked sources of flame. The iGo should be located so as to avoid pollutants or fumes.**
- **Use NO oil or grease: A spontaneous and violent ignition may occur if oil, grease, or other petroleum substances come into contact with oxygen under pressure. Keep these substances away from the oxygen system, tubing and connections, and any other oxygen source. DO NOT use any petroleum based or other lubricants.**
- **Avoid creation of any spark near oxygen equipment. This includes sparks from static electricity created by any type of friction.**
- **Never use aerosol sprays or flammable anesthetics near the equipment.**

WARNING

- **DO NOT service this equipment without first reading and understanding the safeguards and instructions in the instruction guide and this service manual.**
- **DO NOT allow unauthorized or untrained individuals to service the equipment.**
- **DO NOT operate the iGo or accessories in standing water and DO NOT submerge or expose to water. Electric shock or damage to the unit may result.**
- **Protect the Battery and Power Adapters from fluid spills or drips to avoid possible shock hazards.**
- **The Rechargeable Battery may explode and cause potential injury if exposed to or disposed of in a fire.**
- **DO NOT short circuit the battery's metal contacts with metallic objects such as keys, paperclips, or coins. It may cause sparks or excessive heat.**
- **DO NOT disassemble, puncture, or crush the Battery. Rechargeable Battery electrolytes may be toxic if swallowed and can be harmful to skin and eyes. Use of a damaged Battery may cause personal injury. Keep the Battery away from children.**
- **This device contains electrical and/or electronic equipment. Follow local governing ordinances and recycling plans regarding disposal of device components.**
- **Electric shock hazard. Disconnect the power cord from the wall outlet before attempting repairs on the unit. Extra care should be taken if it is necessary to operate the unit with the cover removed. There are no serviceable parts in the adapters; do not open.**
- **Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.**

CAUTIONS

- *Do not operate the iGo in an area where the air may be contaminated with carbon monoxide or hydrocarbons as this may shorten the life of the unit (i.e. near running gasoline engines, furnace, or heater).*
- *Do not place this device near other equipment or devices that create or attract electromagnetic fields. Placing the unit in electromagnetic fields greater than 10 V/m can affect its operation. Examples of such equipment are defibrillators, diathermy equipment, cellular telephones, CB radios, radio-controlled toys, microwave ovens, etc.*
- *Use only the AC Adapter and DC Adapter supplied with the iGo. Use of another power supply will void the warranty. Do not use replacement parts, accessories, or adapters other than those authorized by DeVilbiss. Do not use regenerated sieve material.*
- *DO NOT expose the iGo, Rechargeable Battery, or accessories to temperatures outside of specified operating or storage temperatures as this may cause damage.*

GENERAL INFORMATION

Introduction

Refer to the instruction guide (A-306 or D-306) for set up and operating instructions. This service manual is designed to provide DeVilbiss Healthcare qualified service technicians and homecare providers with the proper maintenance and safety procedures for the DeVilbiss® iGo™ Portable Oxygen System. Please read and understand all the information contained in the instruction guide and this service manual before attempting to operate or perform any maintenance.

DeVilbiss reserves the right to alter or change the design of the DeVilbiss Portable Oxygen System. Hence, slight differences in construction or components may exist between the unit in hand and that which is described in this manual.

Functional Description

The 306 series is a portable medical oxygen concentrator designed to deliver either a continuous flow (CF) of oxygen—up to 3 liters per minute (LPM), or a bolus of oxygen upon inhalation (PulseDose®)—equivalent to 1-6 LPM CF, through an oxygen outlet. The unit contains an able/disable feature for locking and unlocking the flow settings in both modes.

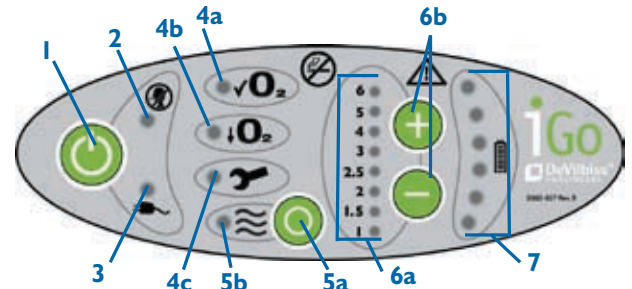
In PulseDose mode, a pressure switch detects inhalation as a reduction in cannula pressure and opens a demand flow valve that delivers the prescribed bolus of oxygen before the patient begins exhalation. The iGo accommodates breath rates up to 40 breaths per minute (BPM) at settings 1-4, 37 BPM at setting 5, and 31 BPM at setting 6, and requires the use of a nasal cannula: mouth breathing is not compatible with PulseDose operation.

NOTE—If the pressure switch does not detect a breath within 30 seconds while the unit is operating in PulseDose mode, the iGo sounds an audible alert every 3 seconds for one minute with a blinking yellow light. If breathing is not detected after one minute, the unit switches to Continuous Flow mode and the CF light illuminates clearing the No Breath Detected alert.

UNPACKING AND SET UP

Control Panel

1. Power button – turns the system ON or OFF
 2. No Breath Detected light (PulseDose mode ONLY) – illuminates intermittently and an audible alert sounds every 3 seconds, if the iGo is operating in PulseDose mode and does not detect a breath for 30 seconds. If a breath is detected during the alert, the alert condition is cleared. If a breath is not detected during the alert, the unit changes to continuous flow mode after 60 seconds of alerting.
- NOTE**—Once the unit changes to continuous flow, use the Mode Select button to change back to PulseDose.
3. External Power light – illuminates when the iGo system is connected to either AC or external DC power.
Power Fail alert – illuminates intermittently with an audible alert for 15 minutes. Pressing the Power button stops the alert.
 - 4a. Green Normal Oxygen light – illuminates when the iGo delivers 84% or greater oxygen purity.
 - 4b. Yellow Low Oxygen light – illuminates if the iGo delivers 76% to 83% oxygen purity.
 - 4c. Red Service Required light – illuminates with an audible alert if the iGo delivers 75% or less oxygen purity or if component failure is detected.
 - 5a. Mode Select button – selects the mode of oxygen delivery (PulseDose or Continuous Flow).
 - 5b. Flow Indicator light – in PulseDose mode, pulses ON with every breath; in Continuous Flow mode, illuminates continuously
 - 6a. Flow Rate Indicator lights – illuminate the flow rate at which the iGo is set to deliver oxygen.
 - 6b. Flow Rate Control buttons – increase or decrease the flow rates in PulseDose (1 to 6 LPM) or Continuous Flow (1 to 3 LPM) as ordered by the physician.
 7. Battery Charge lights – indicate the battery pack's charge status.
 - When the battery is fully charged, all six lights illuminate. As the battery discharges, the lights turn off one by one. Each illuminated light indicates approximately 45 minutes of battery charge at 2 LPM in PulseDose mode.
 - When the battery is charging, the lights illuminate in a cycle pattern.
 - When the battery has approximately 10% of capacity, a yellow battery light illuminates with a single audible alert.
 - When the battery is depleted, the unit enters **Power Fail alert**.



Set Up & Operating Instructions

Refer to the instruction guide (A-306 or D-306) for set up and operating instructions. An overview is below:

CAUTION—The plug on the DeVilbiss iGo is a three-prong plug that must be connected to a grounded receptacle.

CAUTION—Replace the power cord if it is damaged.

NOTE—Every time a button is pressed or a change to the power source occurs, the iGo gives a short audible beep.

Press the Power button and hold for one second to turn iGo ON. All the lights on the control panel illuminate briefly and an audible alert sounds momentarily. Some lights will remain illuminated; others will not.

When using AC Power:

In PulseDose mode: After a few seconds, the External Power, Normal Oxygen, and Flow Rate lights will remain lit. The Flow Indicator light pulses ON with each breath. If a battery is installed, the Battery Status lights illuminate to indicate battery charge level or cycle to indicate battery is charging.

In Continuous Flow mode: After a few seconds, the External Power, Normal Oxygen, Flow Indicator, and Flow Rate lights will remain lit. If a battery is installed, the Battery Status lights illuminate to indicate battery charge level or cycle to indicate battery is charging.

When using External DC (car adapter) Power: ***DO NOT leave the iGo or DC Adapter plugged into the vehicle without the engine running or attempt to start the vehicle while the DC Adapter is connected. This may drain the vehicle's battery.***

In PulseDose mode: After a few seconds, the External Power, Normal Oxygen, and Flow Rate lights will remain lit. The Flow Indicator light pulses ON with each breath. If a battery is installed, the Battery Status lights illuminate to indicate battery charge level. The battery will not charge while operating on External DC power.

In Continuous Flow mode: After a few seconds, the External Power, Normal Oxygen, Flow Indicator, and Flow Rate lights will remain lit. If a battery is installed, the Battery Status lights illuminate to indicate battery charge level. The battery will not charge while operating on External DC power.

When using Internal DC (battery) Power:

In PulseDose mode: After a few seconds, the Normal Oxygen and Flow Rate lights will remain lit. The Battery Status lights illuminate to indicate battery charge level. The Flow Indicator light pulses ON with each breath.

In Continuous Flow mode: After a few seconds, the Normal Oxygen, Flow Rate, and Flow Indicator lights will remain lit. The Battery Status lights illuminate to indicate battery charge level.

NOTES:

- When turned on, the iGo will START at the last mode and flow setting used.
 - Continuous Flow mode provides a continuous supply of oxygen at a specified flow level.
 - PulseDose mode provides a bolus of oxygen at a specified flow level when a breath is detected. An alert will beep after 30 seconds if a breath is not detected. If 30 additional seconds elapse with no breath detected, the unit automatically switches to continuous flow mode at the last continuous flow setting used.
- PulseDose mode increases the amount of operating time when using battery power.
- PulseDose delivers oxygen in a very short puff. It does not deliver oxygen continuously. The length of time that PulseDose delivers oxygen will not vary from breath to breath. The time is set in correlation to the PulseDose setting.
- PulseDose is designed to prevent the delivery of pulses more than every 2 seconds. If the breath rate is greater than the maximum breathing rate, this feature prevents delivery of excessive oxygen by not dosing on every breath.

Verify that the flow rate is on the correct prescription setting or use the Flow Rate Setting buttons to adjust the flow rate

NOTE—You may lock the flow so that it cannot be changed from the prescribed setting: First set the continuous flow rate to the prescribed setting, then set the PulseDose flow rate. Turn the unit OFF and while OFF, press and hold the Mode Select button for 5-6 seconds. A short beep will sound when the lock is complete. Verify that the settings are locked. To unlock the settings: With the unit OFF, press and hold the Mode Select button for 5 to 6 seconds. The unit will beep when the unlocking takes affect. Verify that the lock is inactive.

MAINTENANCE

Alert System

The iGo alert system is comprised of both visible and audible alerts which signal a malfunction in operation. The alerts are energized by an on-board power supply without the need for a battery.

Oxygen Purity

The DeVilbiss iGo is equipped with a DeVilbiss oxygen sensing device (OSD®). The device continuously monitors the oxygen purity of the gas delivered to the oxygen outlet port. Depending on the purity of the gas sensed, the alert activates as follows:

- 84% or greater Oxygen purity Green Normal Oxygen light
- 83% to 76% Oxygen purity Yellow Low Oxygen light
- 75% or less Oxygen purity Flashing Red Service Required light and audible beeping; unit will continue to run

Electronic Diagnostics

If a problem is detected with the electronics, the Red Service Required light illuminates continuously with an intermittent audible alert and the unit shuts down.

Low Flow

In Continuous Flow mode if the flow rate drops below 0.3 LPM for approximately 16 seconds or more, the Red Service Required light and the Flow Indicator light toggle and an audible alert sounds intermittently.

High Temperatures

1. If the internal gas temperature exceeds 55°C, the audible alert sounds intermittently while the Red Service Required light illuminates continuously and the unit shuts down.
2. If the temperature sensor in the motor circuitry reaches approximately 70°C during operation, the compressor shuts down followed by the Red Service Required light illuminating continuously and the audible alert sounding intermittently.

Power Fail

1. **With a charged battery installed** – If the unit is running and external power is lost, the unit will automatically utilize the battery power. The only indications will be a short beep of the audible alert and the external power LED will turn off.
2. **Battery not installed or discharged battery** – If the unit is running and external power is lost, the unit will stop operating. If the power is lost for more than 10 seconds then every 3 seconds the External Power light will illuminate while sounding the audible alert. This alert will last for 15 minutes or until the ON/OFF button is pressed.
3. **While running on battery only** – If the battery becomes fully discharged or is removed from the unit, the unit will alert the same as in #2.

NOTE–The Power Fail alert can be stopped by pressing the ON/OFF button. This will also prevent the unit from automatically starting with the return of power to the unit.

Power Resumed

If power returns while the unit is alerting for a power fail or after the 15 minutes of Power Fail alert, the unit will begin operating again at the same settings prior to the power fail.

No Breath Detected

In PulseDose mode if no breath is detected for 30 seconds while the unit is ON, the iGo sounds an audible alert every 3 seconds for one minute and illuminates the Yellow No Breath Detected light intermittently. If no breath is detected during the alert period, the unit automatically switches to continuous flow mode, illuminates the Continuous Flow light continuously and turns OFF the Yellow No Breath Detected light.

Battery Status

- A series of six lights display the battery capacity: All 6 lights illuminate green when fully charged. As battery becomes depleted, the top lights will go out. When battery reaches its lowest operating level, the lowest light will turn yellow and one short audible alert will sound.
- Each green light indicates approximately 45 minutes of operation at 2 LPM in PulseDose mode.
- The yellow light with a single audible alert indicates approximately 10% of battery capacity remains.
- An External Power light and an audible alert every 3 seconds indicates a depleted battery. See Power Fail alert.
- The lowest battery status light flashing yellow indicates a battery issue:
 - If the yellow light flashes for less than 10 minutes, the battery was overly discharged and has gained sufficient charge to regain normal operation.
 - If the yellow light flashes for more than 10 minutes, the battery is malfunctioning.
- The lights cycle when battery is being charged.

Periodic Provider Maintenance

Summary

- 3 years: Inspect intake silencer/filter—replace as needed
 Check oxygen concentration.
- 6 years: Inspect final bacteria filter—replace as needed

Full Details

Every DeVilbiss Oxygen Concentrator is tested at the factory. To ensure continued trouble-free performance, perform the following preventative maintenance during periodic oxygen patient visits. Failure to properly maintain the unit will void the warranty.

NOTE—*The following schedule is based on an expected usage of 5,000 hours per year and a normal, clean operating environment. The homecare provider should adjust the schedule based on the specific operating environment.*

1. Check the oxygen concentration with an oxygen analyzer every 3 years.
 - a. Calibrate the oxygen analyzer, using the manufacturer’s procedure, prior to checking the oxygen concentration.

NOTE—*Changes in temperature, altitude, or humidity may affect the analyzer’s oxygen concentration reading. The analyzer should be calibrated in conditions similar to the location of the concentrator.*
 - b. Set the flow to 3 LPM @ Continuous Flow mode and run the concentrator for a minimum of 20 minutes before checking the oxygen concentration.
 - c. Connect the analyzer to the unit’s oxygen outlet port and wait until the display stabilizes.
 - d. Record the reading.
2. Check the audible alert and indicator lights every 3 years by turning the power switch ON and verifying that the audible alert and the front panel indicator lights are operating.
3. Inspect intake silencer/filter (part# 306DS-616) every 3 years. Replace as necessary.
 - a. Unplug the unit and remove the battery.
 - b. Remove the cover.
 - c. Remove the intake silencer/filter.
 - d. Install the new intake silencer/filter.
 - e. Replace the cover and battery.
4. Inspect the final bacteria filter (part# PV5LD-651) every 6 years. Replace as necessary or in conjunction with compressor service.
 - a. Unplug the unit and remove the battery.
 - b. Remove the cover.
 - c. Remove the hose from each end of the filter and discard the filter.
 - d. Install the new final bacteria filter with the IN fitting toward the Tee Fitting.
 - e. Replace the cover and battery.

Between Patient Maintenance

DeVilbiss Healthcare recommends the following as minimum between patient maintenance. If the unit is due for periodic provider maintenance, those items should be completed in addition to the list below.

1. Discard oxygen tubing, cannula & humidifier bottle.
2. Wash or replace the air filter.
3. Check oxygen concentration level. If the concentration is NOT within specification, refer to Troubleshooting
4. Inspect all plugs, cords, and components. Replace any damaged or worn components.
3. Clean exterior cover and battery.

WARNING

Electric shock hazard. Do not apply liquid directly to the cover or utilize any petroleum-based solvents or cleaning agents.

Electric shock hazard. Disconnect the power cord from the wall outlet before attempting repairs on the unit. Extra care should be taken if it is necessary to operate the unit with the cover removed. There are no serviceable parts in the adapters; do not open.

CAUTION—*Use of harsh chemicals, including alcohol, is not recommended. If bactericidal cleaning is required, a non-alcohol based product should be used to avoid inadvertent damage.*

- a. Turn the iGo OFF and disconnect from AC or External DC power before cleaning. Select one of the following options:
- b. Clean the iGo exterior cover using a damp cloth with a mild household cleaner and wipe it dry. Do NOT spray cleaner directly onto unit.

- 1) If the battery is installed on the iGo, clean it while it is installed using a damp cloth with a mild household cleaner and wipe dry. Do NOT spray cleaner directly onto unit.
- 2) If the battery is removed from the iGo, clean the unattached battery and the battery bay using a dry cloth only. Do NOT use a wet or damp cloth in the battery bay or on the unattached battery. Do NOT spray cleaner directly onto unit.

TROUBLESHOOTING

System Operation

The DeVilbiss® iGo™ Portable Oxygen System uses a pressure-swing adsorption system. Air is drawn through filters into a double-head, pressure-vacuum compressor. The pressure and vacuum created in the compressor are cycled through a 4-way valve that directs the pressure to one sieve bed while directing vacuum to the other. A pressure transducer monitors the accumulator tank and triggers the valve to direct the pressure/vacuum to the alternate sieve beds when the tank reaches the specified shift pressure.

The sieve beds contain a synthetically-produced silicate molecular sieve material with the unique ability to selectively adsorb nitrogen from the air. As one bed pressurizes and adsorbs nitrogen, the other bed vacuums forcing the previously adsorbed nitrogen to exhaust through the valve and an exhaust muffler. During each pressure-vacuum cycle, a small amount of oxygen from the pressurizing bed travels to the vacuuming bed through a purge valve helping to release the nitrogen from the sieve material. The beds continue to alternately pressurize and vacuum as the unit operates.

Oxygen leaving each sieve bed travels through a check valve into the accumulator tank. A pressure regulator on the tank controls the pressure of the oxygen as it leaves the tank and enters the oxygen sensing device (OSD) where it is checked for purity. From the OSD, the oxygen travels to a proportional valve, which adjusts the flow rate of the oxygen so that the level prescribed by the physician is delivered accurately. Oxygen leaves the proportional valve and passes through the final bacteria filter and the oxygen outlet port to the patient.

The iGo incorporates power efficiency routines. The PC board adjusts cycle shift pressures and compressor speeds, as needed, to consume the least amount of power, while maintaining oxygen delivery with higher than 90% purity levels.

The PC board also activates the electronic alert system. See Alert System under Maintenance in this manual.

Normal Operating Sequence

When the concentrator is turned ON @ 3 LPM, the following cycling sequence can be observed by attaching pressure gauges to the sieve bed test points.

1. The PC board cycles the 4-way valve quickly several times, to relieve residual bed pressure and prevent a static condition in the compressor, and opens the proportional valve to relieve any residual pressure elsewhere in the system. During this time the PC board conducts a test of the control panel and audible alerts.
2. The PC board powers the compressor and sets the proportional valve to the desired flow rate.
3. The PC board removes voltage from the 4-way and purge valves. The right bed, as viewed from the front of the unit, pressurizes while the left bed evacuates to approximately 17 in-Hg.
4. When the accumulator tank reaches the shift pressure, the PC board applies voltage to the purge valve for 0.8 seconds sending a small amount of oxygen to the left bed to help release the nitrogen from the sieve material.
5. The PC board applies voltage to the 4-way valve and removes voltage from the purge valve causing the left bed to pressurize while the right bed evacuates.
6. When the accumulator tank reaches the shift pressure the PC board applies voltage to the purge valve for 0.8 seconds sending a small amount of oxygen to the right bed to help release the nitrogen from the sieve material.
7. The cycle repeats beginning with step 3.

Simplified Troubleshooting

The following troubleshooting chart will help you analyze and correct minor iGo malfunctions. If the suggested procedures do not help, call your DeVilbiss provider. Do not attempt any other maintenance at this time.

| SYMPTOM | POSSIBLE CAUSE | REMEDY |
|--|---|---|
| Unit not operating. No lights illuminated and nothing happening when power button pressed. | <ol style="list-style-type: none"> 1. Power button was not held. 2. No external power and no charged battery installed. 3. Check ribbon connector. 4. Unit malfunction. | <ol style="list-style-type: none"> 1. Press Power button and hold for one second. 2. Plug into external power or install charged battery. 3. Reconnect connector. 4. Contact DeVilbiss. |

| SYMPTOM | POSSIBLE CAUSE | REMEDY |
|--|--|--|
| Unit not operating. External Power light flashing with audible alert. Power Fail alert activated. | <ol style="list-style-type: none"> 1. AC power cord not properly inserted into wall outlet or DC adapter not attached. 2. Charged battery not installed or defective battery 3. No power at wall outlet. 4. Faulty AC Adapter. 5. Faulty DC accessory power port outlet. 6. Faulty DC Adapter. | <ol style="list-style-type: none"> 1. Check power cord connection at the wall outlet and adapter connection to iGo. 2. Install charged battery or contact your provider for a replacement battery. 3. Check the home circuit breaker and reset if necessary. Use a different wall outlet if the situation occurs again. 4. Contact your DeVilbiss provider. 5. Check automotive fuse. 6. Contact your DeVilbiss provider. <p>If the above remedies do not work, contact DeVilbiss.</p> |
| Unit set for PulseDose mode: No Breath Detected light flashing and audible alert sounding. OR Unit changed to Continuous Flow automatically. | <ol style="list-style-type: none"> 1. Cannula is not adjusted properly. 2. Obstructed cannula or oxygen tubing. 3. Tubing/cannula too long. 4. Humidifier attached. 5. Low flow cannula being used. 6. Atmospheric Pressure Port obstructed. 7. Tubing inside unit is kinked. 8. Patient not candidate for PulseDose delivery. | <ol style="list-style-type: none"> 1. Check all cannula connections to make sure they are tight and adjust the cannula to fit comfortably. Ensure tubing is not kinked. 2. Detach cannula. If proper flow is restored, clean or replace if necessary. Disconnect the oxygen tubing at the oxygen outlet. If proper flow is restored, check oxygen tubing for obstructions or kinks. Replace if necessary. 3. Replace with shorter tubing/cannula. 4. Remove humidifier. (PulseDose does not operate with humidifier) 5. Replace with standard cannula. 6. Remove obstruction. 7. Unkink tubing. 8. Use CF delivery for patients that fail to trigger equipment (e.g. mouth breather with closed soft palate.) <p>If the above remedies do not work, contact DeVilbiss.</p> |
| Cannot change the flow rate. | <ol style="list-style-type: none"> 1. Flow rate is locked. 2. Ribbon connector cable is disconnected. 3. Unit malfunction. | <ol style="list-style-type: none"> 1. Unlock flow rate. 2. Reconnect cable to circuit board. 2. Contact DeVilbiss. |
| Oxygen level out of specification. | Intake silencer/filter is blocked. | Replace intake silencer/filter. If the above remedies do not work, contact DeVilbiss. |
| Yellow Low Oxygen light illuminating. OR Red Service Required illuminating and audible alert sounding. External Power and/or Battery Power lights illuminating. Unit is operating. | <ol style="list-style-type: none"> 1. Air filter is blocked. 2. Exhaust is blocked. 3. Intake silencer/filter is blocked. | <ol style="list-style-type: none"> 1. Check the air filter. If the filter is dirty, wash it following the cleaning instructions. 2. Check the exhaust area; make sure there is nothing restricting the unit exhaust. 3. Replace intake silencer/filter. <p>If the above remedies do not work, contact DeVilbiss.</p> |
| Red Service Required light illuminating. External Power and/or Battery Power lights illuminating. Audible alert sounding. Unit not operating. | <ol style="list-style-type: none"> 1. Air filter is blocked. 2. Exhaust is blocked. 3. Unit is overheated. 4. Intake silencer/filter is blocked. | <ol style="list-style-type: none"> 1. Check the air filter. If the filter is dirty, wash it following the cleaning instructions. 2. Check the exhaust area; make sure there is nothing restricting the unit exhaust. 3a. Allow unit to cool and try again. 3b. Move unit to cooler location. 4. Replace intake silencer/filter. <p>If the above remedies do not work, contact DeVilbiss.</p> |
| Power Fail alert activated: External Power light flashing and audible alert sounding. | <ol style="list-style-type: none"> 1. Battery completely discharged. 2. Lost external power without battery installed. | <ol style="list-style-type: none"> 1. Recharge battery. 2. Install battery or plug into external power. |
| Red Service Required light flashing. Flow. Indicator light flashing. Audible alert sounding. Unit operating. | <ol style="list-style-type: none"> 1. Blocked or defective cannula or oxygen tubing. 2. Tubing inside unit is kinked. | <ol style="list-style-type: none"> 1a. Detach cannula. If proper flow is restored, clean cannula or replace if necessary. 1b. Disconnect the oxygen tubing at the oxygen outlet. If proper flow is restored, check oxygen tubing for obstructions or kinks. Replace if necessary. <ol style="list-style-type: none"> 2. Unkink tubing. |
| Unit not operating when used with charged battery. Power Fail alert activated: External Power light flashing and audible alert sounding. | Battery is overheating. | Allow battery to cool. |

| SYMPTOM | POSSIBLE CAUSE | REMEDY |
|--|--|--|
| DC Adapter attached. Unit operating from Battery or not operating. External Power light is not illuminated | <ol style="list-style-type: none"> Poor connection to DC power source. Vehicle power source (vehicle accessory connector) dropped too low for the DC Adapter. Fuse in vehicle is blown. | <ol style="list-style-type: none"> Ensure the DC accessory power port outlet is clean and a good connection can be made. Insert the DC Adapter into the vehicle's DC accessory power port outlet. If the vehicle power source drops too low for the DC Adapter, the iGo will revert to Battery operation (if present) or will cease operation until power is restored. Check the fuse and replace if necessary. |
| Audible alert sounds intermittently when operating from DC Adapter. | <ol style="list-style-type: none"> Vehicle not running. Poor connection to DC power source. Vehicle electrical system overloaded or defective. | <ol style="list-style-type: none"> Start vehicle. Ensure the DC accessory power port outlet is clean and a good connection can be made. Insert the DC Adapter into the vehicle's DC accessory power port outlet. Have a qualified auto technician check electrical system while iGo is attached. |
| Lowest Battery Status light is Yellow. Unit beeps once. | Battery needs to be charged. | <ol style="list-style-type: none"> Plug unit into AC power or replace discharged battery with charged battery. Plug unit into DC accessory power port outlet to operate unit. NOTE–Battery will not recharge on DC power. |
| Battery Status lights never indicate fully charged. | <ol style="list-style-type: none"> Battery needs to be reconditioned. Defective battery. | <ol style="list-style-type: none"> Fully discharge battery then recharge. Contact DeVilbiss. |
| Yellow Battery Status light flashing. | Unit is equipped with built-in battery test and the battery pack is being checked. | If light flashes longer than 10 minutes, battery is defective. Contact DeVilbiss for a replacement. |
| Short battery run time. | <ol style="list-style-type: none"> Battery needs to be reconditioned. Air filter is blocked. Exhaust is blocked. Intake filter silencer is blocked. | <ol style="list-style-type: none"> Perform a complete discharge and then a 100% charge of the battery. Check the air filter. If the filter is dirty, wash it following the cleaning instructions. Check the exhaust area. Make sure there is nothing restricting the unit exhaust. Replace the intake silencer/filter. If the above remedies don't work, contact DeVilbiss. |
| Unit is noisy. | <ol style="list-style-type: none"> Intake silencer/filter is missing or not installed correctly. Exhaust muffler is missing or not installed correctly. | <ol style="list-style-type: none"> Install intake silencer/filter until fully seated in the gasket. Install exhaust muffler until fully seating in fitting. |
| Audible alert sounds intermittently. Flow indicator light flashing. Unit operating. | <ol style="list-style-type: none"> Partially blocked or defective cannula or oxygen tubing Tubing inside unit partially kinked. Unit malfunction. | <ol style="list-style-type: none"> Disconnect the oxygen tubing at the oxygen outlet. If proper flow is restored, check oxygen cannula and tubing for obstructions, kinks or leaks. Replace if necessary. Search internal components for kinked tubing. Unkink tubing or replace if necessary. Contact DeVilbiss Customer Service for repair authorization. |
| Any other issues. | | Contact DeVilbiss. |

COMPONENT DESCRIPTION AND FUNCTION

2-Way Proportional Valve

A 2-way proportional valve ensures that the selected flow rate is delivered to the patient in either Continuous Flow or PulseDose mode. When the unit is in PulseDose mode, the pressure switch triggers the proportional valve to deliver the correct bolus of oxygen for the selected flow rate.

4-Way Valve

The 4-way valve directs the pressure and vacuum created in the compressor to the two sieve beds in alternating cycles. The cycle shift is controlled by the PC board and occurs when a pre-determined pressure is reached in the accumulator tank.

Accumulator Tank

The accumulator tank holds the concentrated oxygen and releases it to the patient at a specified liter flow.

Battery Pack

The battery pack contains two rechargeable lithium ion batteries of 22 nominal volts, 9 amp-hours of total capacity and allows the iGo to operate free of connection to an external power source. After 300 charge/discharge cycles, the battery's capacity may drop to about 80% of the original capacity. A variety of factors, such as age of battery, flow rate, and PulseDose or Continuous Flow Mode operation, determine the duration of operating time; operating time will degrade with Battery use and age. The following table provides estimates of amount of time that a new, fully charged iGo Battery will operate.

Typical New Battery Operation Time

| Flow Rate | Continuous Flow | PulseDose (20 BPM) |
|-----------|-----------------|--------------------|
| 1.0 | 4.0 hours | 5.4 hours |
| 2.0 | 2.4 hours | 4.7 hours |
| 3.0 | 1.6 hours | 4.0 hours |
| 4.0 | — | 3.5 hours |
| 5.0 | — | 3.2 hours |
| 6.0 | — | 3.0 hours |

NOTE—Be sure to check the battery charge level before travel; battery will discharge over time.

Cover

The external plastic cover parts are molded of impact resistant and flame retardant plastic resin and held in place by six T-20 screws.

Compressor

A dual-head compressor creates pressure and vacuum simultaneously and is driven from a single brushless DC motor whose speed is regulated by the motor control board.

Final Bacteria Filter

The final bacteria filter prevents contaminants from reaching the patient through the oxygen supply.

Intake Silencer/Filter

The intake silencer/filter filters the air drawn into the compressor removing particulate matter and reduces the sound of the intake. The silencer/filter should be inspected every 3 years and replaced if needed.

Molecular Sieve Beds

Molecular sieve beds contain a synthetic alumino-silicate that attracts and holds nitrogen in a magnetic bond. Two molecular sieve beds work in tandem: one bed removes nitrogen from the air passing through it while the other bed releases the removed nitrogen back into the room air.

Moisture or hydrocarbons contaminate molecular sieve material causing it to lose its nitrogen adsorbing properties, which in turn decreases the oxygen concentration. To allow the iGo to exhaust these possible contaminants, anytime the unit is started, it should run for a minimum of 20 minutes before it is turned OFF.

Motor Control Board

The motor control board controls the motor speed of the DC brushless compressor. The control board also monitors the compressor's temperature and speed and communicates that information to the PC board.

Motor Mount System

There are two types of motor mounts used in the iGo: Black rubber mounts connect the compressor to the bracket; spring mounts connect the bracket to the base of the cover.

Pressure Regulator

The pressure regulator stabilizes the flow of oxygen to the patient and establishes back pressure on the system. It is preset at 5 psi (34.5 kPa) and should not need adjustment in the field.

Printed Circuit Board (PC Board)

The printed circuit (PC) board monitors and controls the operation of the iGo, including cycling pressure and vacuum between the two sieve beds and initiating visible and audible alerts if abnormal operation is detected. The OSD is located on, and controlled by, the PC board.

Pressure Switch

When the iGo is operating in PulseDose mode, a pressure switch detects inhalation as a reduction in cannula pressure and opens a 2-way proportional valve that delivers the prescribed bolus of oxygen as the patient begins inhalation. If the pressure switch does not detect a breath at least every 30 seconds, it triggers a No Breath Detected alert. If it does not detect a breath after another minute, it automatically switches the unit into continuous flow mode.

Purge Valve

Before the 4-way valve cycles pressure and vacuum to alternate sieve beds, the PC board activates the purge valve for 0.8 seconds. During this time, the purge valve sends oxygen from the pressurizing bed to the evacuating bed breaking any remaining nitrogen bonds and cleaning the bed in preparation for its upcoming pressure cycle.

Sieve Bed Check Valves

Check valves, located between the outlet of each sieve bed and the accumulator tank, allow oxygen to pass from the sieve beds to the accumulator tank, but prevent the reverse flow of oxygen from the accumulator to the sieve beds.

COMPONENT TESTING, REPAIR, AND REPLACEMENT

At this time, DeVilbiss recommends limited replacement of components and no testing or field repair of components for the 306 iGo unit. When testing, repair and replacement restrictions are removed, an updated service manual will be published.

Proper Repair and Replacement Procedures

When servicing any DeVilbiss oxygen concentrator, be absolutely certain that the correct tools are used and that the parts are free of oil and grease or any material not compatible with oxygen. Teflon[®] tape is recommended and must be applied to the male threads, omitting the first thread to eliminate the possibility of tape particles entering the oxygen system.

A service kit (part #444-501) containing the necessary gauges, tools, and testing instruments to properly service all DeVilbiss oxygen concentrators is available. In addition, service personnel need an oxygen analyzer (part #O2ANA) to periodically check oxygen concentration levels and a voltmeter to obtain more accurate voltage readings.

The following parts are included in the service kit:

- I Slotted bit
- I #1 Phillips bit
- I #2 Phillips bit
- I 7/16" Socket 1/4" Drive
- I Crescent wrench
- I 8" Duckbill pliers
- I T-10 Bit
- I AC/DC test meter
- I 1/4" Ratchet wrench
- I 3mm Hex bit
- I T-15 Torx "L" wrench
- I 10mm Socket 1/4" Drive
- I 1/4" Drive extension
- I Plastic storage case
- I Plastic error indicator tool
- I 5/32" Allen bit
- I 5/64" Allen bit
- I 9/64" Allen bit
- I 7/64" Allen bit
- I Torx screwdriver w/bits
- I Tool box

*2 Test Fittings (part #303DZ-637)

*2 Pressure/Vacuum gauge (part #PVO2D-601)

Parts that are also sold separately are indicated with an asterisk and have part numbers in parenthesis.

WARNING

Electric shock hazard. Disconnect the power cord from the wall outlet and remove the battery from the unit before attempting repairs on the iGo. Extra care should be taken if it is necessary to operate the unit with the cover removed. There are no serviceable parts in the adapters; do not open.

CAUTION—Do not apply leak test solution to any of the electronic components, including the OSD, PC board and motor control board.

NOTE—After replacing a component, run the unit for 20 minutes and then check the oxygen concentration and test for leaks.

NOTE—Test for leaks using a certified leak detection solution such as SWAGELOK MS-Snoop[®] or equivalent. Do NOT use a solution that contains ethylene glycol. Apply leak test solution to all fittings and hose connections with the unit running. If an air leak is present, the solution will bubble. All leaks should be repaired before putting the concentrator back in service.

Teflon[®] is a registered trademark of DuPont.
Snoop[®] is a registered trademark of SWAGELOK

READ ALL OF THE STEPS INVOLVED BEFORE BEGINNING ANY OF THE PROCEDURES IN THIS MANUAL.

NOTE THE CORRECT POSITION OF PARTS BEFORE REMOVING THEM FROM THE UNIT.

Battery Pack

WARNING

Do not open the battery pack. There are no serviceable parts in the battery pack. All batteries must either be returned for service or disposed of properly as designated by local authorities.

To remove or replace the battery pack:

1. If the battery has been removed from the battery cavity on the back of the iGo, go to step 4.
2. If the battery is attached to the iGo concentrator, press down on the latch at the top of the battery pack. The battery pack will release from the concentrator approximately one inch and sound a short beep.
3. With a firm hold on the battery pack, pull the pack away from the concentrator out of the two slots that hold the bottom of the pack onto the concentrator.
4. To replace the battery pack, position the pack so that the latch at the top of the battery pack faces away from the battery cavity.
5. Insert the tabs on the bottom of the battery pack into the slots in the bottom of the cavity and push the top of the battery pack into the cavity. The iGo will sound a short beep and the battery pack will 'click' into a latched position.

Covers

To remove the covers:

1. Ensure that all power is removed from the unit.
2. Remove the six screws that hold the cover to the internal structure.

NOTE—All six screws are T-20 with accommodation for flat head drivers. Two screws are in the bottom front cover, two are in the handle cavity behind the air filter, and two are at the bottom of the battery cavity.

3. Lift the back cover off the unit and place it aside.
4. Push the top of the front cover away from the unit and disconnect the hose from the final bacteria filter that connects to the outlet port.
5. Disconnect the control panel ribbon connector cable by gently pulling it up and out of the connector on the PC board.
6. Lift the front cover off the unit and place it aside.

To replace the covers:

1. Ensure that all power is removed from the unit.
2. Ensure that all tubing is free of kinks and that all tubing and electronic harnesses and connectors are in proper position inside the unit.
3. Position the front cover in front of the compressor and connect the tubing from the final bacteria filter to the outlet port and the control panel ribbon connector cable to the connector on the PC board. Be sure there are no twists in the cable when connected.
4. Lift the bottom edge of the front cover onto the base and, using the sieve beds for support, carefully push the cover into place over the

interior components, making sure that the tubing and electronic harnesses and connectors are not kinked, the final bacteria filter is properly positioned, and that the power connector fits into the cover properly.

5. Screw the bottom of the front cover into place.
6. Position the back cover onto the base and push the two covers together, making sure that the tubing and electronic harnesses and connectors are not caught in the covers, that the battery connectors clear the holes in the cover, and that the power connector fits into the cover properly.
7. Holding the covers together, replace the screws in the handle of the back cover first and then the screws in the bottom of the cover.
8. Replace the air filter in the handle cavity.

Control Panel

CAUTION—Do not bend or crease the new control panel. Electronic components and connections in the panel can be broken.

To remove or replace the control panel:

1. Remove covers from the unit.
2. Disconnect the control panel ribbon connector cable.
3. Warm the control panel using a hair dryer or a heat gun to loosen the adhesive.
4. Peel the control panel from the cover pulling the ribbon connector cable through the opening in the cover.

NOTE—Use a thin or sharp edged instrument to lift an edge of the panel if it does not peel off the unit easily.

5. Remove the paper backing from a new panel.
6. Insert the ribbon connector cable through the opening in the cover and carefully position the panel over the cover touching the center of the panel into place on the cover and pressing the edges of the panel into place from the center out.

NOTE—If the panel is not smooth, warm the adhesive, lift that section of the panel and press it back onto the cover from the center out.

7. Replace covers and ensure air filter is in place in the handle cavity.

Exhaust Muffler

To remove and replace the exhaust muffler:

1. Remove covers from the unit.
2. Unscrew the exhaust muffler from the compressor housing.
3. Replace the exhaust muffler.
4. Replace covers and ensure air filter is in place in the handle cavity.

Hour Meter

To replace the hour meter:

1. Remove covers from the unit.
2. Disconnect the hour meter from the connector below the PC board.
3. Lay the unit down so that the PC board is facing up.
4. Release the top or bottom of the hour meter from the bottom cover using a thin, flat-bladed instrument.
5. Holding the released edge away from the cover, pry the opposite edge of the hour meter out of the cover using the same instrument.
6. Press the new hour meter into the opening and connect to the PC board.
7. Replace covers and ensure air filter is in place in the handle cavity.

Motor Mounts

To replace the motor mounts:

1. Remove covers from the unit.
2. Lay the unit onto a flat surface with the compressor facing up and remove the hex nuts from the base of the unit using a 3/8 inch nut driver.
3. Stand the unit upright and push the compressor mounting plate toward the top of the unit, until the mounts are released from the base, then tilt the compressor and lift it out of the unit, with the mounting plate and spring mounts attached.
4. Remove the 3 hoses after noting the orientation of the hoses and the clamps.
5. Remove the remaining three hex nuts from the top of the mounting plate and pull the mounts off the plate.
7. Insert the new motor mounts into the mounting plate and fasten them in place with the hex nuts.
8. Lift the compressor into the unit with the bottoms of the mounts fitting into the screw holes in the base.
9. Reattach hoses and clamps; ensure they are oriented correctly.
10. Lay the unit down with the compressor facing up and fasten the hex nuts onto the mount screws on the bottom of the base.
11. Replace covers and ensure air filter is in place in the handle cavity.

Oxygen Outlet

To replace the oxygen outlet:

1. Remove covers from the unit.
2. Remove the tubing from the oxygen outlet.
3. Remove the hex nut holding the oxygen outlet on the cover using a 1/2 inch nut driver.
4. Remove the oxygen outlet.
5. Replace the oxygen outlet by reversing the above steps, making sure to position the replacement oxygen outlet in the cover so that the long fitting is on the outside of the cover.
6. Replace covers and ensure air filter is in place in the handle cavity.

ORDERING PARTS

DeVilbiss Customer Service Contact Information

- Customer Service (USA) 800-338-1988 / 814-443-4881, cs@DeVilbissHC.com
- Canada 905-660-2459 / 800-263-3390
- International Department 814-443-4881, DHCinternational@DeVilbissHC.com

Ordering Replacement Parts

Order parts and literature from your DeVilbiss provider. To expedite the process, be prepared to provide the following information:

- Account and ship-to numbers
- Ship-to address
- Part numbers and/or descriptions
- Quantity required
- Unit catalog number
- Unit serial number
- Hours of operation

AVAILABLE PARTS LIST

Accessories

| | |
|---|----------------|
| AC Charger/Adapter | 306DS-651 |
| DC Adapter | 306DS-652 |
| Rechargeable Battery Pack | 306D-413 |
| Humidifier Kit (1 each remote stand, humidifier, adapter) | 306DS-627 |
| Humidifier (50/case) | HUM16 |
| Elbow Humidifier Adapter | 444-507 |
| Rolling Carry Case | 306DS-625 |
| Detachable Wheeled Cart | 306DS-626 |
| Cannula (50/case) | CAN00 |
| Cannula w/2.1 m (7 ft) tubing (50/case) | CAN70 |
| Oxygen Tubing Connector | T0002 |
| 7 ft Oxygen Tubing 2.1 m (50/case) | OST07 |
| 15 ft Oxygen Tubing 4.6 m (50/case) | OST15 |
| 25 ft Oxygen Tubing 7.6 m (25/case) | OST25 |
| Instruction Guide | A-306 or D-306 |

Power Cords

| | |
|-------------------------------|-----------|
| USA Power Cord | 306DS-601 |
| Continental Europe Power Cord | 306DS-602 |
| UK Power Cord | 306DS-603 |
| Australia Power Cord | 306DS-604 |
| China Power Cord | 306DS-605 |

Filters

| | |
|-----------------------|-----------|
| Air Filter | 306DS-611 |
| Final Bacteria Filter | PV5LD-651 |

Tools

| | |
|------------------------|-----------|
| Oxygen Analyzer | O2ANA |
| Pressure Test Assembly | 303DZ-637 |
| Pressure Vacuum Gauge | PVO2D-601 |
| Service Kit | 444-501 |

Components—currently available

| | |
|--|-----------|
| Base Kit | 306DS-633 |
| Cover Screws | 303DZ-628 |
| Carton w/ Shipping Inserts | 306DS-606 |
| Front Cover Kit | 306DS-631 |
| Rear Cover Kit | 306DS-632 |
| Hour Meter | PV5LD-617 |
| Control Panel | 306DS-615 |
| Motor Mount Kit | 306DS-609 |
| Intake Silencer/Filter | 306DS-616 |
| Exhaust Muffler | 306DS-612 |
| Battery Bumpers (push-in feet used in battery compartment) | 4650D-609 |
| Replacement Feet Kit | 306DS-654 |

SPECIFICATIONS

| | |
|---|--|
| Dimensions (H x W x D) | 15 inches x 11 inches x 8 inches 38 cm x 28 cm x 20 cm |
| Weight | 19 pounds or 8.6 kg with Battery 15.5 pounds or 7.0 kg without Battery |
| Flow Rate Settings | 1 to 6 LPM settings in PulseDose Mode 1 to 3 LPM in Continuous Flow Mode |
| Maximum Recommended Continuous Flow (@ nominal outlet pressures of 0 and 7 kPa) | 3 LPM |
| Maximum Breathing Rate (PulseDose mode only) | 40 BPM @ settings 1-4, 37 BPM @ setting 5, 31 BPM @ setting 6 |
| Oxygen Concentration | 91% ± 3% for all flow settings |
| Maximum System Pressure | 15 psig (103.5 kPa) |
| Oxygen Outlet Pressure | 5.0 ± 1.0 psig (34.5 ± 7 kPa) |
| Operating Temperature | 41°F to 104°F (5°C to 40°C) |
| Operating Humidity | 10% - 95% at 82.4°F (28°C) dew point |
| Transportation and Storage Temperature (tested @ ~933 hPa) | -4°F to +140°F (-20°C to +60°C) |
| Transportation and Storage Humidity (tested @ ~933 hPa) | up to 95% non-condensing |
| Altitude | 0 – 13,123 feet (0 – 4,000 meters) |
| Nominal Sound Level | 40 dBA at 3.0 LPM in PulseDose Delivery Mode |
| Maximum Sound Level (from front) @ 3 LPM continuous flow | 47.8 dBA |
| Pressure Relief Mechanism | 20 psi ± 20% (138 kPa ± 20%) |
| OSD Set Points | ≥ 84% – Normal Light (green) 76-83% – Low O2 Light (yellow) ≤ 75% – Service Required Light (red) and Audible Alert |

CAUTION—When moving the iGo from an extreme environment, allow time for the iGo to acclimate to the recommended operating environment. Operating the iGo outside the recommended operating environment may impact performance, cause damage, and will void the warranty.

Electrical Power *

| | |
|--|--------------------------------|
| DeVilbiss Rechargeable Battery (Lithium Ion)..... | 8.8 Amp Hours |
| AC Adapter Input Voltage Range | 90-264 50/60 Hz |
| Max AC Input Wattage @ 115V, 60 Hz or 230V, 50 Hz..... | 200 watts |
| DC Adapter | 12 Volt Negative Ground System |

Adapter Manufacturer Info:

| | |
|------------------|--|
| AC Adapter | Jerome Industries Model # WSX828M, Autec Model # DT-EM250-2805 |
| DC Adapter | EDAC, Model ED1010E |

Device Classification..... Class I, Type BF Applied Part, IPX1

* Use only DeVilbiss exact replacement parts.

Audible Alerts:

- Power Fail
- Low Battery
- Low Oxygen Output
- High Flow/Low Flow
- No Breath Detected in PulseDose Mode
- High Temperature
- Unit Malfunction

Specifications subject to change without notice.

DeVilbiss will make available on request circuit diagrams, parts lists, etc.

DECLARATION OF CONFORMITY

| | |
|----------------------|--|
| Manufacturer: | Sunrise Medical dba DeVilbiss Healthcare |
| Address: | 100 DeVilbiss Drive Somerset, PA 15501-2125 USA |
| Product Designation: | Oxygen Concentrator |
| Catalog Number: | 306DS |

We herewith declare that the above-mentioned product complies with the requirements of EC directive 93/42/EEC and the following:

| | |
|-----------------------------------|--|
| Class: | Ila, Rule 2 |
| Quality System Standards Applied: | ISO13485:2003 |
| Notified body: | TUV USA |
| MDD: | Annex II Applied |
| Safety Standards Applied: | EN 60601 + A1 + A2 ISO8359: 1996 IEC 60601-1-4:2000 ISO 14971:2000 |
| EMC Compliance To: | EN 60601-1-2 |
| Authorized Representative: | Sunrise Medical Ltd. Sunrise Business Park High Street Wollaston, West Midlands DY8 4PS ENGLAND 44-138-444-6688 |



FIGURES, DIAGRAMS AND VIEWS**Index****Diagrams**

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Figure 2 - Wiring Diagram

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Figure 4 - Rear

Figure 5 - Side

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Figure 9 - Inside Front Cover

Figure 10- Rear with Cover Removed

Figure 11 - Front with Cover Removed

Figure 12 - Motor Board

Figure 13 - PC Board

Figure I - Pneumatic Diagram

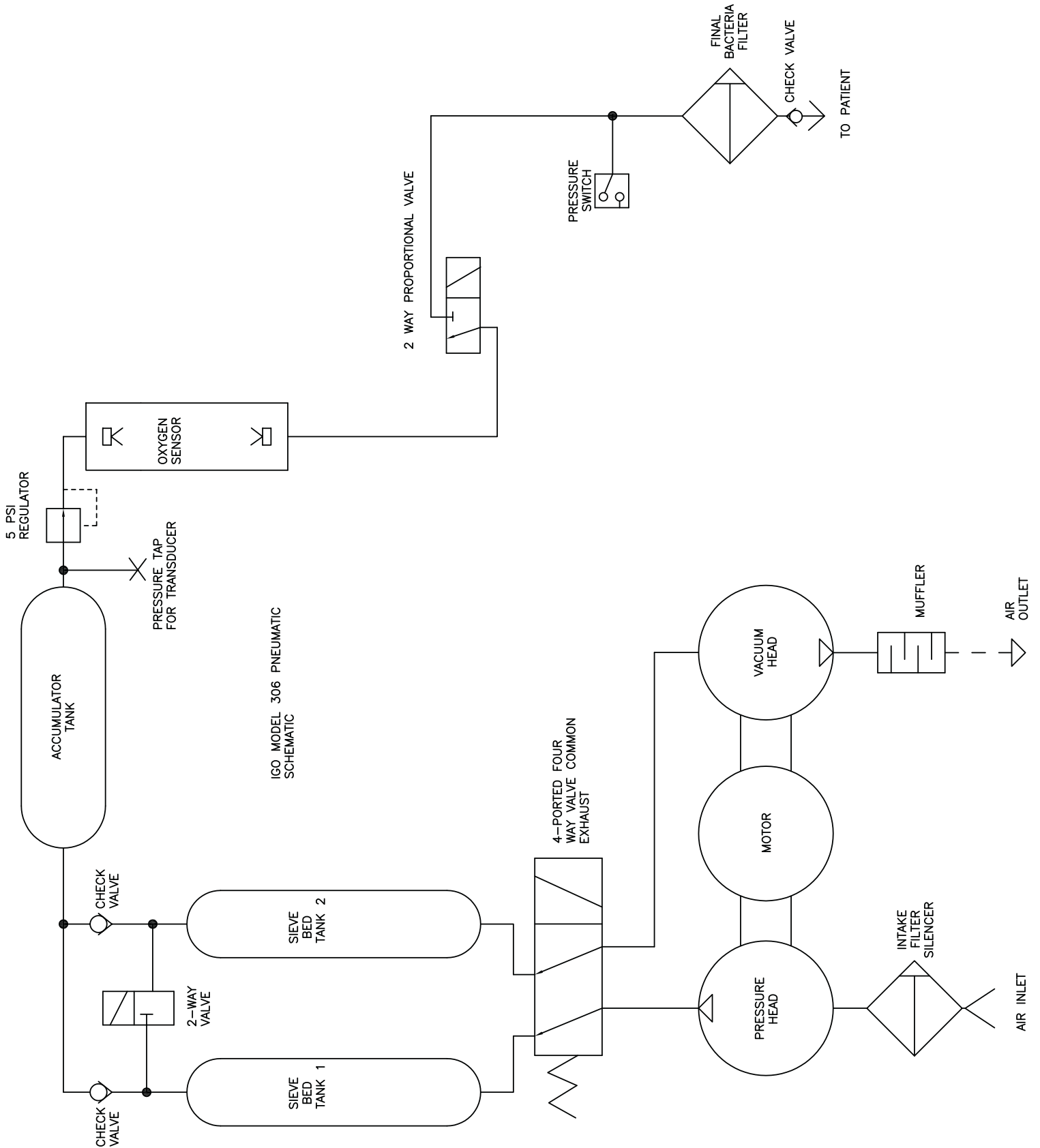


Figure 2 - Wiring Diagram

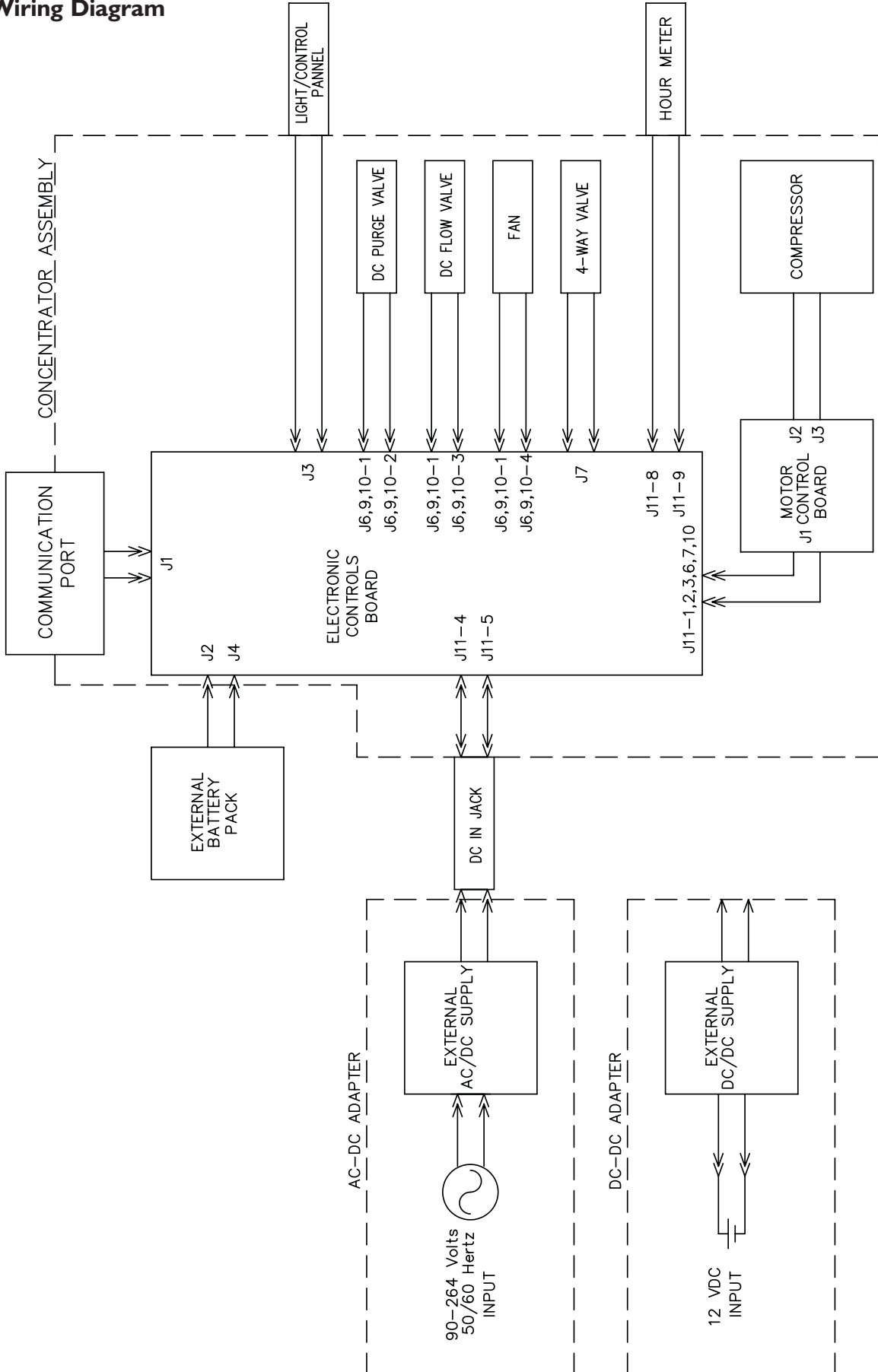


Figure 3 - Front



Figure 4 - Rear

Figure 5 - Side



Figure 7 - Battery Bay



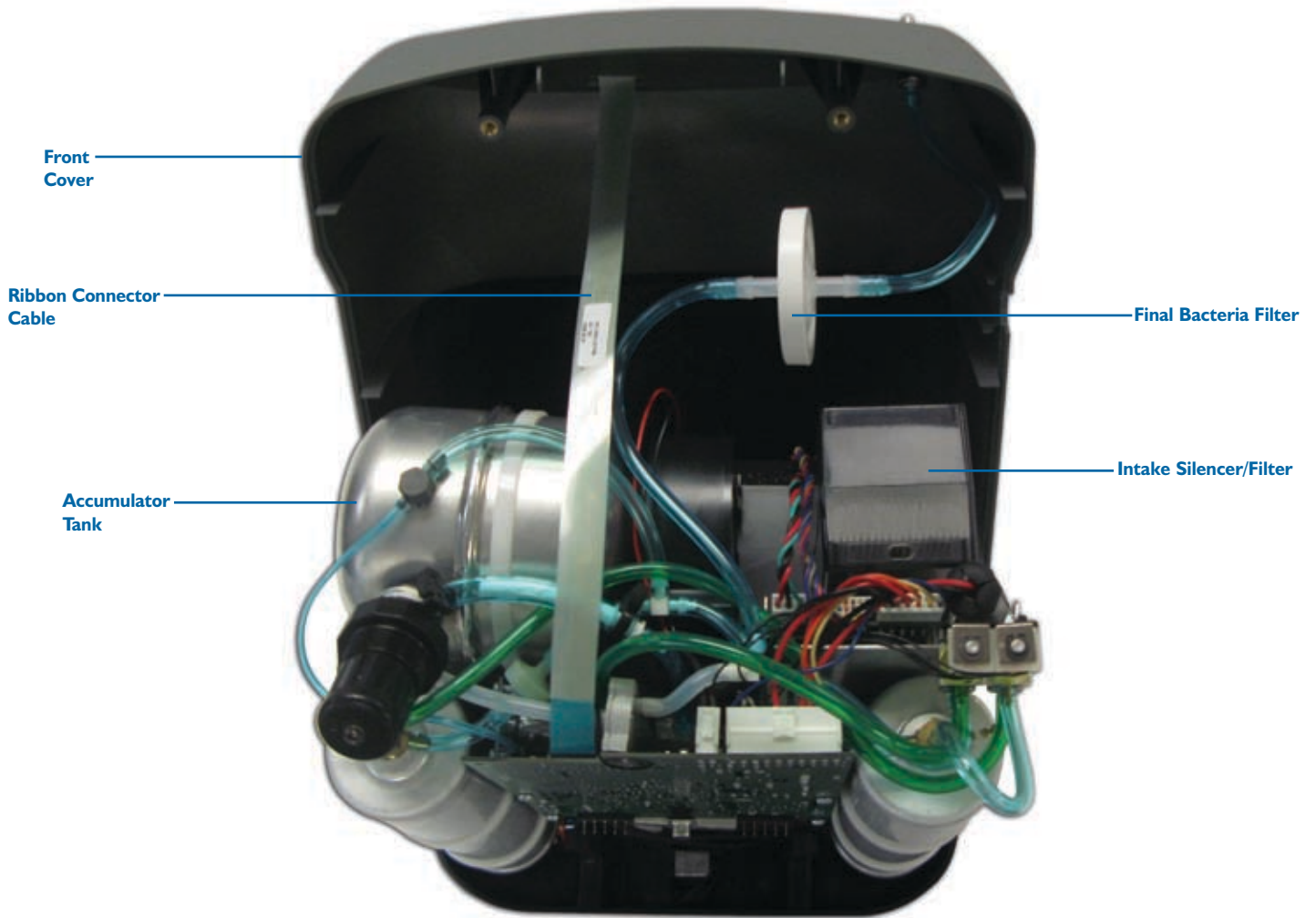
Figure 8 - Top with Rear Cover Removed

Figure 9 - Inside Front Cover

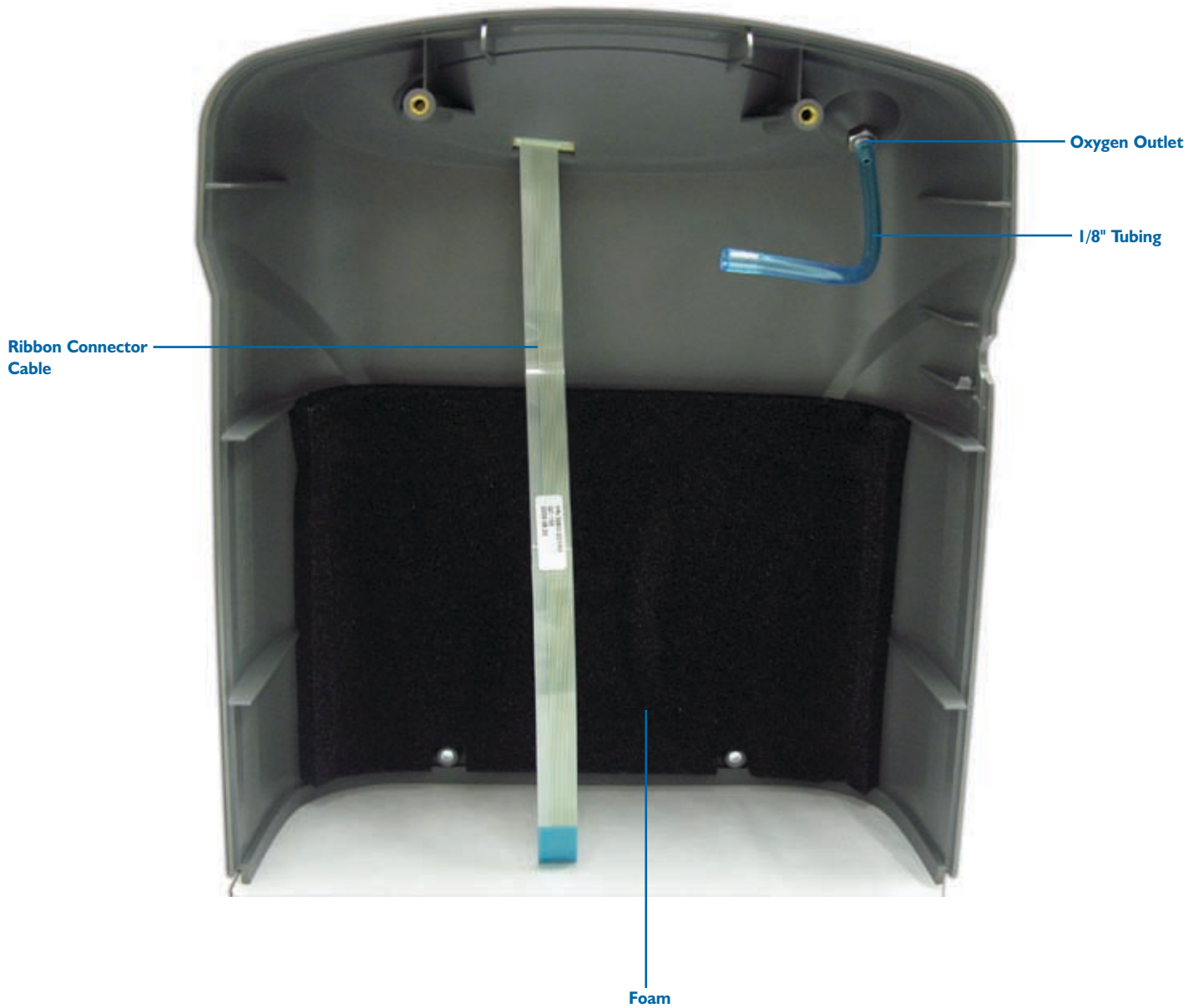


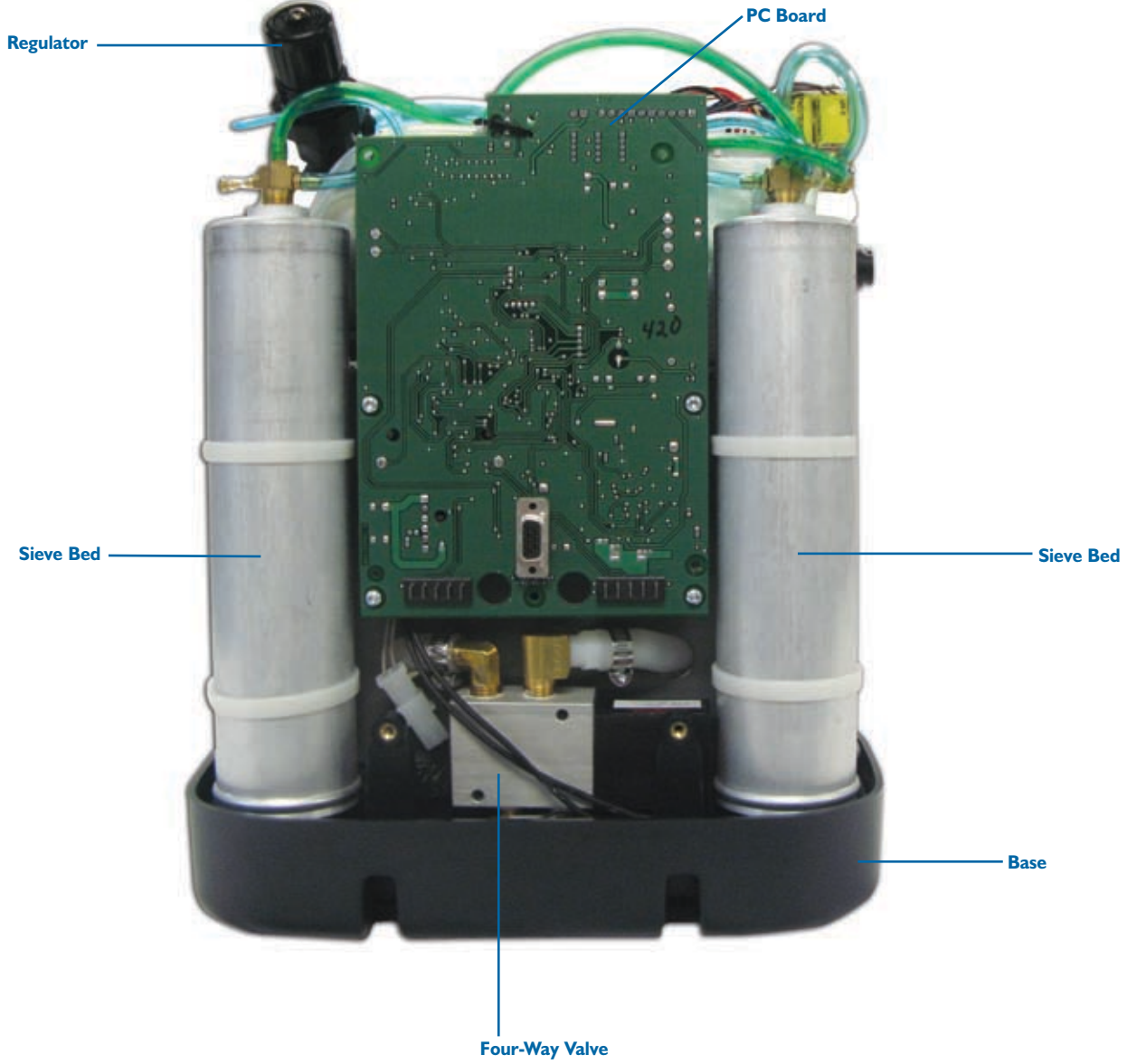
Figure 10 - Rear with Cover Removed

Figure 11 - Front with Cover Removed

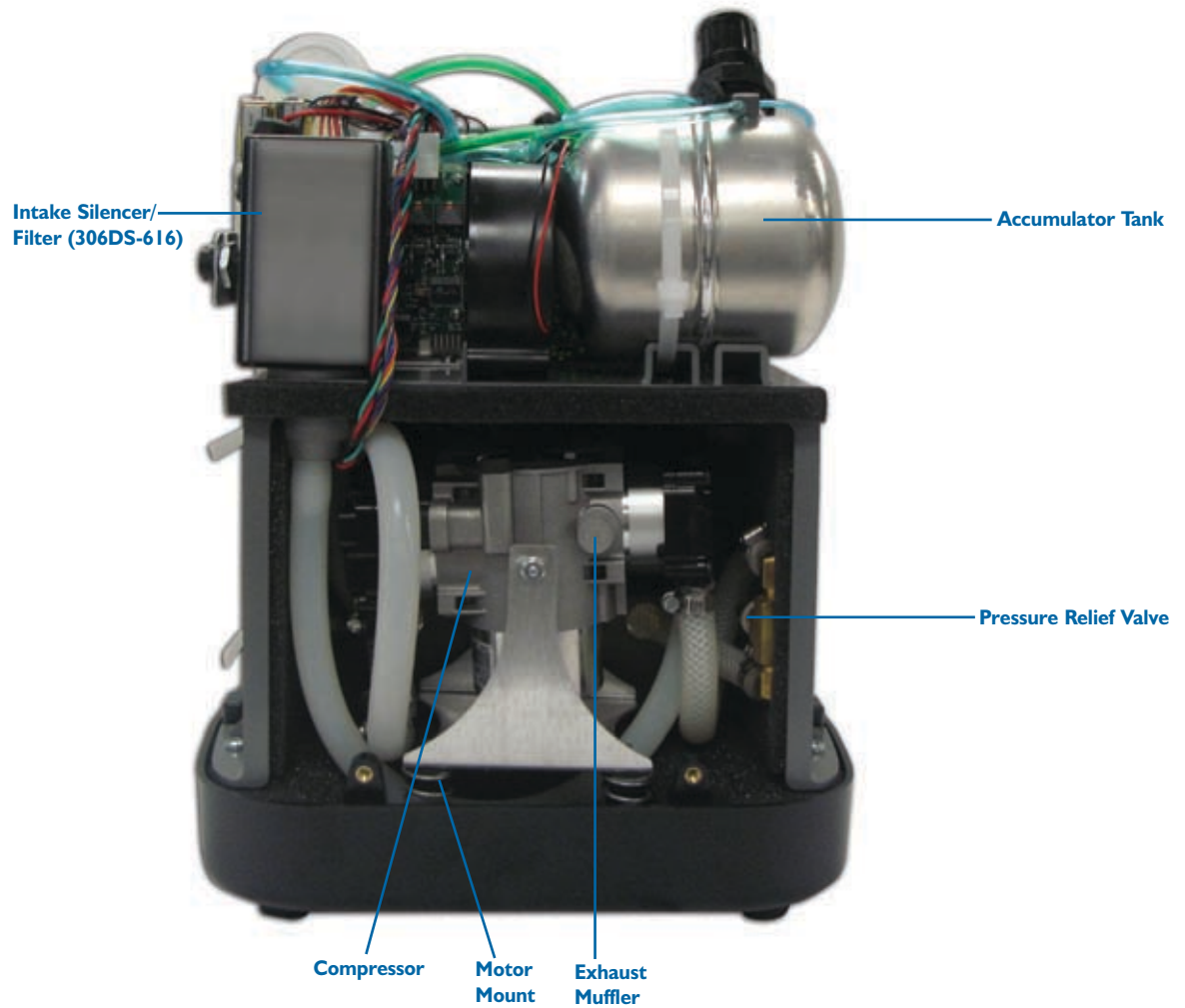


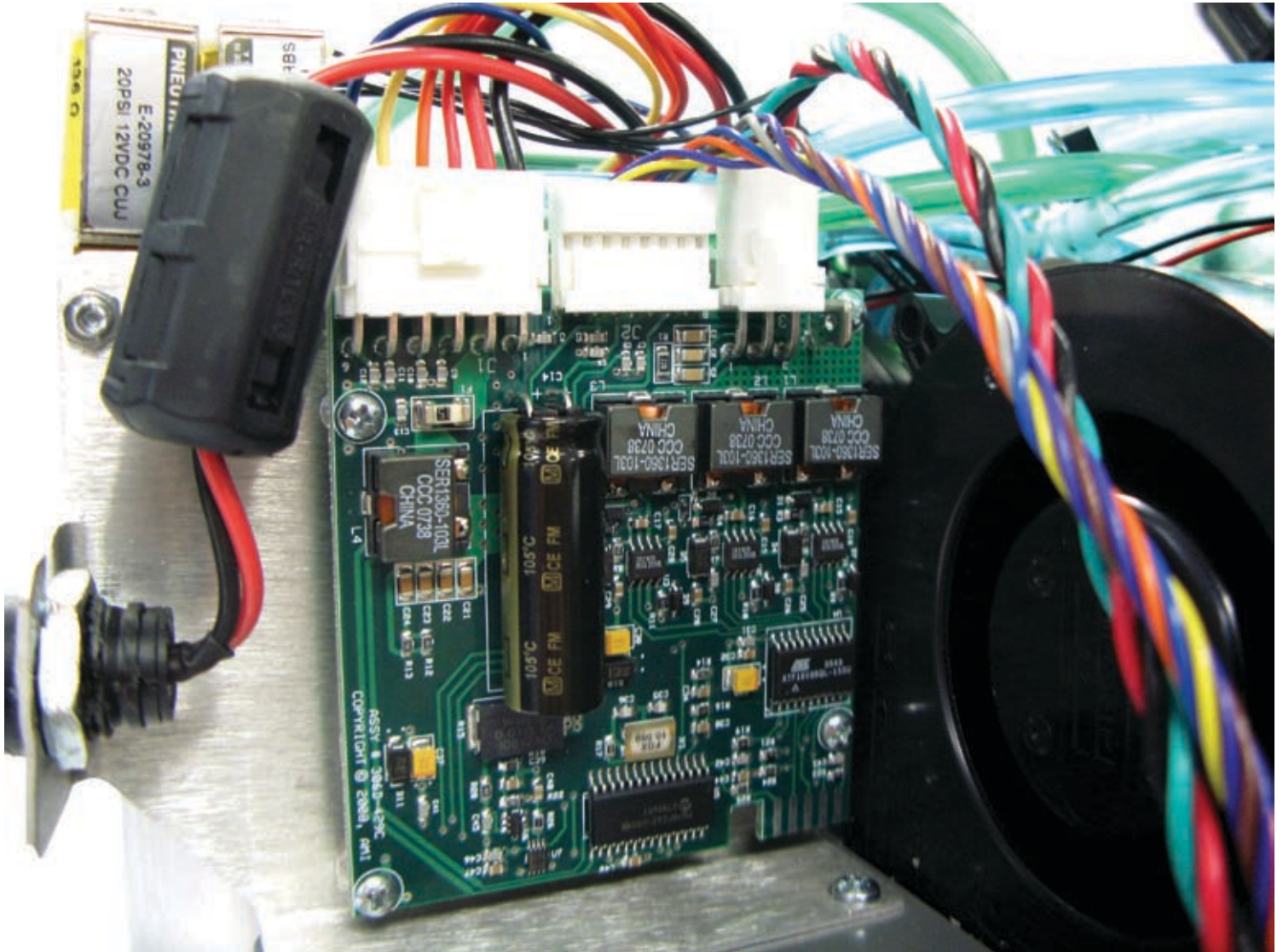
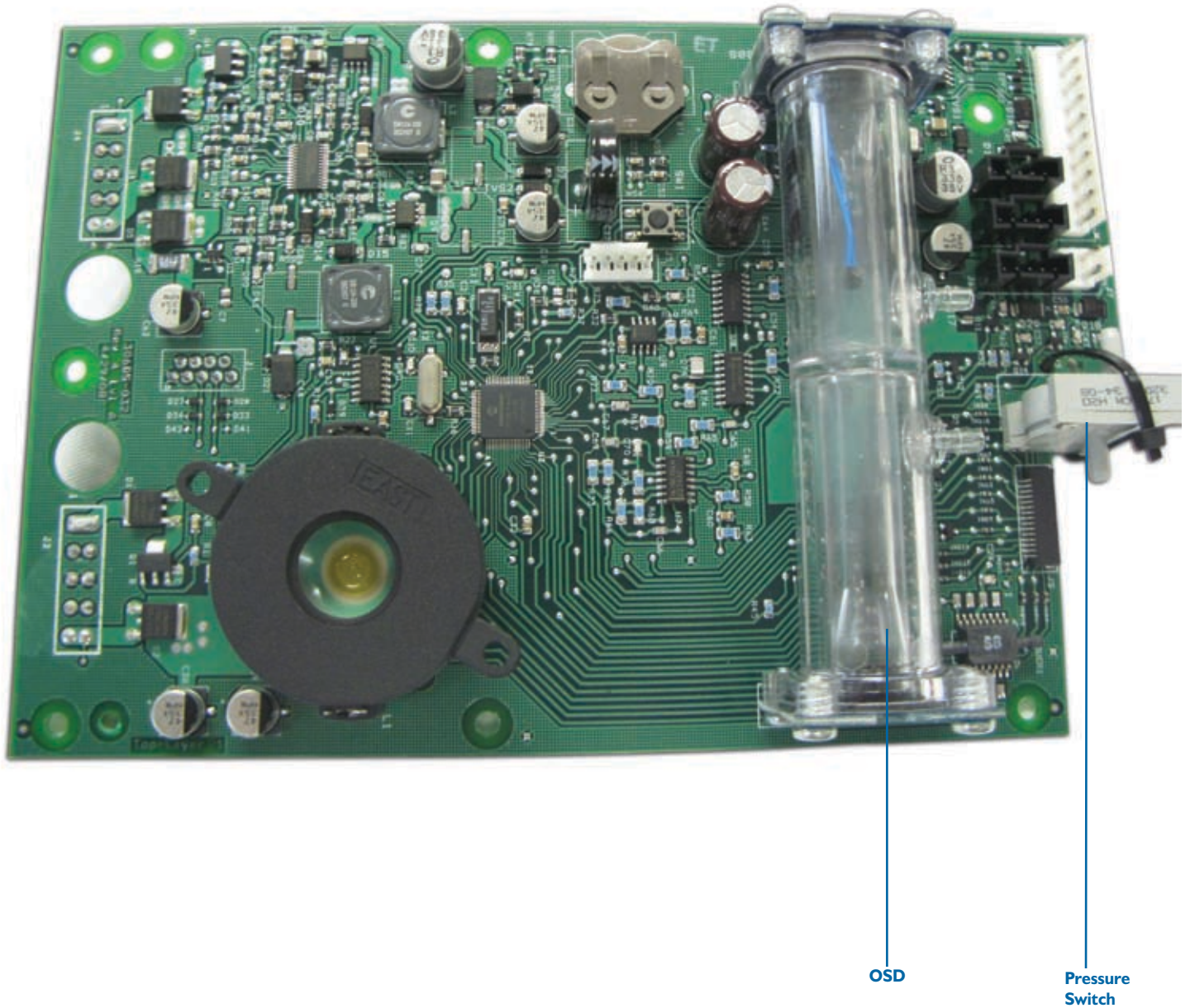
Figure 12 - Motor Board

Figure 13 - PC Board





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