

PRoO₂

Instructions for Use

OMEGA 50

Oxygen Generators

For model: 2335 (and variants thereof)



| | | | |
|----------|---|--|---|
| | <p>This device supplies highly concentrated oxygen enriched product gas that promotes rapid burning.</p> <p>DO NOT allow smoking or open flames within the same room of this device.</p> <p>Failure to observe this warning can result in severe fire, property damage, and / or cause physical injury or death.</p> | | <p>DO NOT open the device while in operation. Failure to observe this warning can result in electrical shock.</p> <p>DO NOT remove the cabinets unless you are a qualified service technician.</p> |
| | <p>Oxygen accelerates the combustion of flammable substances.</p> <p>DO NOT use oil, grease, petroleum based or other flammable products on the device.</p> | | <p>DO NOT use extension cords or adapters. Use the power cord provided.</p> <p>Check that the electrical characteristics of the power outlet used match those indicated on the manufacturer's plate on the rear panel of the device.</p> |
| | <p>This device is intended for industrial use. It should be placed in a well-ventilated area, free from smoke and atmospheric pollution, where the intake filter ventilation is not obstructed or blocked.</p> | | <p>This unit may be equipped with a polarized plug. That is one blade wider than the other. If it does not fit into the outlet, reverse the plug. If it still does not fit, contact a qualified electrician. Do not defeat this safety feature.</p> |
| | <p>DO NOT use in an explosive environment. DO NOT use in a magnetic environment.</p> | | <p>Only persons who have read and understood this entire manual should be allowed to operate the <i>device</i>. If the equipment is used in a manner not specified by PRoO₂, the protection provided by the equipment may be impaired.</p> |

1 Glossary of Symbols

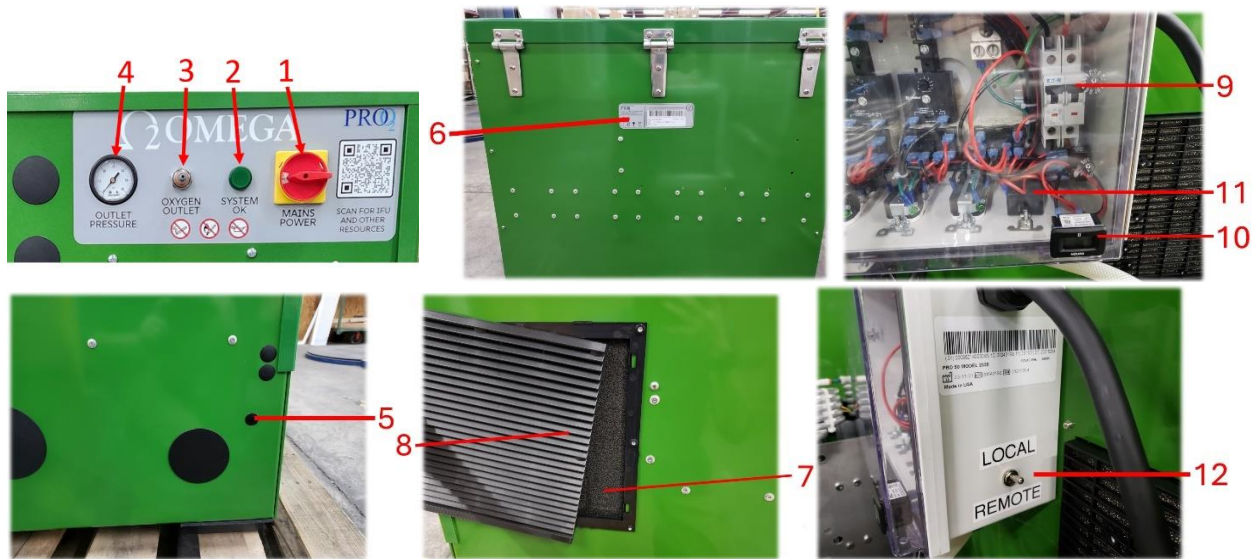
| | | | | | |
|---|--------------------------------|--|----------------------------------|--|---|
| | ON (Power switched on) | | Tools Required / Technician Only | | WARNING – A hazard or unsafe practice that can result in serious injury or death if conditions are not avoided. |
| ○ | OFF (Power switched off) | | FRAGILE – Handle with Care | | Caution - A hazard or unsafe practice that can result in minor injury and / or property damage if conditions are not avoided. |
| | Class I (Protective Earth) | | Keep in Vertical Position | | Note – Information important enough to emphasize or repeat |
| | Do Not Expose to Open Flames | | | | |
| | Do Not Expose to Oil or Grease | | | | |

2 Purpose and Principles of Operation

This device is intended to supply oxygen for applications requiring high concentration. It produces an enriched product gas by concentrating the oxygen contained in room air.

The operation of the device begins with air being pulled into the external air intake filter. This filtered air enters the compressor via a suction resonator and fine filter. Pressurized air then exits the compressor and into an electronic valve system that directs the air into one of two tubes that contain molecular sieve (sieve beds). The molecular sieve adsorbs (physically attracts) the nitrogen from the air as it is pushed through the sieve beds. This allows the oxygen enriched product gas to pass through before being delivered to the pressure regulator. As one tube is generating the product gas, the other is being purged of the adsorbed nitrogen, this process is called pressure swing adsorption (PSA). After passing through the regulator, the rate of product gas is set by the flow meter adjusting valve. Finally, it passes through a fire-resistant outlet.

3 Device Features



Features

- | | |
|------------------------------|--------------------------------------|
| 1. Power Switch (On and Off) | 7. Cabinet Air Filter |
| 2. Indicator Lights (On) | 8. Air Filter Grille |
| 3. Oxygen Outlet | 9. Circuit Breaker |
| 4. Pressure Gauge | 10. Hour Meter |
| 5. Power Inlet | 11. Remote-Control Receptacle |
| 6. Technical Label | 12. Remote Switch (Local and Remote) |

Accessories

Accessories used with this device must be oxygen compatible and rated for the pressure. The filters notated in this section, available from your distributor, comply with these requirements.

Filters

Cabinet Air Filter – PN 9500-1025
Inlet Filter / Element – PN 9800-1027 / 9800-1012

4 Installation and Operation

The Omega 50 Oxygen Generator is packaged to protect the device from damage while being transported and stored. After the device is removed from the package, inspect for damage. If damage is detected, please contact your equipment supplier.

Instructions for lifting and carrying: The Omega 50 machine is heavy and must be transported by either a forklift or a pallet jack. The device should only be lifted from the bottom surface. The top hatch handle is not adequate for lifting.

The device should be placed and operated in a space where the Intake Filter Ventilation (7) is not obstructed and the Power Cord is accessible for easy disconnection but does not present a tripping hazard.

To use your device safely, follow the directions below.

1. Ensure that the Power Switch (1) is in the "O" (OFF) position.
2. Ensure the Intake Ventilation (8) is not obstructed or blocked.
3. Ensure power is wired into device via the Power Inlet (5) and conform to the power parameters defined on the Technical Label (6). See below for wiring locations. Use at least 12ga wire for the main power switch. Consult with a local electrician regarding distance from power source and appropriate gauge of wire to be used.
4. For normal use place the local/remote switch in the local position for normal operation of the unit.
For remote operation there is a twist lock plug installed in the bottom of the control panel inside of the unit. Use a cord at least an 18ga SO cord connected to the twist lock plug and connected into the receptacle at the bottom of the control panel, and route it to your remote control. Remote control is simply a contact closure which will stop and start the unit from a remote location. Use caution with the switch in the remote position one of the two leads on the cord will be energized.
5. Connect supply tubing, that is rated for oxygen use at the designated pressure, to the Oxygen Outlet (3).
6. Move the Power Switch (1) to the "I" (ON) position.
7. At the end of use, move the Power Switch (1) to the "O" (OFF) position to stop the device.



Internal switch wiring locations for power input

| | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | The required oxygen concentration is normally obtained within five minutes of the start-up of the device. |
| <input checked="" type="checkbox"/> | The oxygen enriched air flow continues for approximately one minute after shut down of the device. |

5 Cleaning and Maintenance

Only the outside of the device is to be cleaned. After making sure the Power Switch (1) is in the "O" (OFF) position, use a soft, dry cloth or, if necessary, a damp sponge with mild soap. Do not use acetone, solvents, abrasive powders or any inflammable products to clean the cabinet.

The removable Cabinet Air Filter (6) must be cleaned, at least weekly, in warm water and household detergent. It should be rinsed thoroughly and dried completely before reinstalling. The Inlet Filter / Element (not pictured, located inside the device) should be inspected monthly and replaced if required, or at least annually.

6 Performance Specifications and Alarm / Safety Features

| | |
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| Model | 2335 |
| Description | 50LPM 230V |
| Frequency | 60Hz |
| Average Power | 3600 Watts |
| Protection Class | Class I |
| Mains Protection | 20A |
| Average Oxygen Content | At 50 LPM 87% - 93% |
| Outlet Pressure | 15-20 Psig |
| Dimensions (L x W x H) | 940 x 927 x 940 mm (37 x 36.5 x 37 in.) |
| Weight | 195 Kg (430 lbs) |

Indicator Lights and Fault Conditions

Green indicator: This light indicates that power is applied to the concentrator and that it is ready to provide oxygen enriched product gas.

Electrical Protection: In the event of a surge or drop in power supply, the circuit breaker will trip. To restart the device, flip the Circuit Breaker lever (9).

7 Storage and Operating Conditions

The device should be stored in a dry area, with an ambient temperature between -20°C to 60°C (0°F to 140°F) at 15-95% relative humidity. It must be stored, transported and used in the vertical position only. Oxygen concentration can be affected after prolonged periods of storage – check device before use.

The device should be operated in a dry area, with an ambient temperature between 10°C to 40°C (50°F to 105°F) at 15-95% relative humidity. Consult the equipment manufacturer before installing if operating outside these temperature ranges. The device can be operated at an altitude of up to 1500m (5000ft) at a temperature of 21°C (70°F) without causing product degradation. Consult your equipment provider for further information regarding 1500m to 4000m (5000ft to 13000ft).

8 Disposal

This device has been supplied by an environmentally aware manufacturer. A majority of the parts in the device are recyclable. Follow local governing ordinances and recycling plans regarding disposal of the device or components normally used in operation. Any accessories not original to the device must be disposed of in accordance with the individual product markings for disposal.

9 Troubleshooting

| OBSERVATIONS | POSSIBLE CAUSES | SOLUTIONS |
|---|--|--|
| The Power Switch (1) is in the "I" ON position but the device does not operate. | Power wiring is not connected or is wired incorrectly Circuit breaker has been tripped Remote Switch (11) is set to "Remote" rather than "Local" | Check that the device wiring is connected correctly Check the Circuit Breaker (9) and reset if necessary Flip the Remote Switch (11) to "Local" |
| Device has low flow | One of the compressors is not running Internal electrical fault | Check to make sure power switch to individual compressor is in the one position or that the individual compressor circuit breaker has not been tripped. Contact your Equipment Supplier |
| The device is operating but the Green Light Indicator (2) is not lit | Faulty indicator | Contact your Equipment Supplier |
| The device is operating but there is no flow | Internal system failure | Stop device immediately and contact your Equipment Supplier |
| Compressors suddenly stop and then start again in a few moments. | Dirty Filters Compressor Thermal Shut-Off | Clean External Cabinet Filter (7) Contact your Equipment Supplier |
| The oxygen flow is interrupted or the flow is irregular | Tubing is disconnected or leaking Tubing is restricted | Check tubing connections Straighten tubing Contact your Equipment Supplier |



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