Ozone Solutions

451 Black Forest Rd Hull, IA 51239 Ph: (712) 439-6880 Fax: (712) 439-6733

OX-15

15-SCFH Oxygen Generator (Concentrator)

Installation and Operation Manual

Cautions, Warnings and Hazards

Oxygen is a powerful oxidizing agent; it can cause fire or explosion. Observe strict cleanliness procedures when fabricating and connecting the oxygen piping. ***It is imperative that oxygen systems be properly cleaned and inspected to insure that no combustible materials remain in the connecting piping and fittings.*** Do not allow the free flow of oxygen from the Oxygen Generator or from any point on the oxygen manifolding.

Ensure that the Oxygen Generator is in a well-ventilated area. If the space is occupied, sufficient ventilation must be provided to prevent the accumulation of low oxygen concentration waste gas in the space. Approximately 6 air changes per hour are necessary.

Do not allow rain or condensation to contact the Oxygen Generator. The Oxygen Generator is not weather proof. The unit must be operated indoors or in an enclosure in a noncondensing environment.

Table of Contents

Introduction

The operation of the Oxygen Generator is based on the pressure swing adsorption (PSA) cycle using synthetic zeolite molecular sieve. The Oxygen Generator is capable of delivering oxygen flows up to 15-standard cubic feet per hour (SCFH) at over 90% by volume oxygen concentration. The main components of the Oxygen Generator are an Oxygen Concentrator Module and an oilless air compressor.

Typical applications for the Oxygen Generator include aquaculture and feed gas for ozone generation. Ozone Solutions can supply oxygen generators, sub-systems and components for generators in many capacities.

Installation

IMPORTANT: Remove (2) ¼-20 screws that secure the compressor during shipping. Do not attempt to operate the Oxygen Generator without removing these screws as damage may result.

A wall bracket has been supplied with the system. Install the bracket on a sturdy vertical surface using a level. Attach the bracket with bolts or screws capable of supporting the unit. The backplate of the unit has large through holes for sighting in the wall bracket's hanger screws. If necessary, remove the top cover and use the through holes to assist the installer hanging the unit. Re-attach the cover. Do not lay items on the cover; it is not designed to carry heavy loads.

Be certain there is sufficient access space around the Oxygen Generator to perform normal maintenance and service. Also ensure there will be a free flow of cooling air around the unit. Connect the unit to a grounded power source rated for the voltage and current requirements stated on the label on the unit.

IMPORTANT: The location of the Oxygen Generator must be well ventilated. Contact Ozone Solutions if further assistance is needed.

IMPORTANT: Choose a location for the Oxygen Generator that does not allow rain or condensation to contact the unit. The Oxygen Generator is not weather proof. It must be operated indoors or in an enclosure in a noncondensing environment.

Oxygen Hook-up

The oxygen outlet connection is 1/8-inch female National Standard Pipe Thread (FPT) and is located on the front of the Oxygen Generator. The hex-nut bulkhead fitting should be stabilized with a 7/8-inch wrench to prevent rotation when making your connection to the unit.

IMPORTANT: Oxygen is a powerful oxidizing agent; it can cause fire or explosion. Observe strict cleanliness procedures when fabricating and connecting the oxygen piping. ***It is imperative that oxygen systems be properly cleaned and inspected to insure that no combustible materials remain in the connecting pipe and fittings.*** If you are not familiar with oxygen cleaning procedures, refer to the Compressed Gas Association documents G-4.1 "Cleaning Equipment for Oxygen Service" and G-4.4 "Industrial Practices for Gaseous Oxygen Transmission and Distribution Piping Systems."

IMPORTANT: Do not allow the free flow of oxygen from the Oxygen Generator. Ensure that the oxygen flow is measured and controlled to rates that do not exceed rated capacity.

Operation

To start the Oxygen Generator, connect the unit to a grounded power source rated for the voltage and current requirements stated on the label on the unit. Push the toggle switch on the front panel to the up position.

Set the outlet oxygen flow to 15-SCFH (7-SLPM) or less.

IMPORTANT: Ensure that the Oxygen Generator is in a well-ventilated area. If the space is occupied, sufficient ventilation must be provided to prevent the accumulation of low oxygen concentration waste gas in the space. Approximately 6 air changes per hour are necessary.

IMPORTANT: The flow meter installed on the Generator is set to read accurately when the discharge is to atmospheric pressure. If the actual discharge pressure is substantially above atmospheric pressure, the reading can be adjusted to determine the precise flow rate, according to the following formula (using psig):

$$(adjustedflow) = (measuredflow)x\sqrt{\frac{oxygenpressure + 14.7}{14.7}}\ .$$

Please contact Ozone Solutions if additional assistance is required.

Do not allow the oxygen product to vent freely. Do not exceed rated capacity.

Maintenance

The Compressor Inlet Filter should be changed every 4,000-hours. Filter change frequency is dependent on environmental conditions and may vary.

Compressors require a rebuild after 5,000 to 12,000-hours of operation, depending on environmental conditions.

See the Service Parts section for information on replacement air inlet filters and compressor rebuild kits.

Specifications

Compressed Air

Pressure Relief Valve setting: 35-psig ±10%

Oxygen Output

15-SCFH (10.8-SLPM) at 90% +3%/-5% oxygen by volume at 7-psig minimum (at lab conditions, derated performance at higher temperature and humidity) 1/8" NPT Female Pipe connection

Electrical Input

Model No 5455: 120 VAC, single phase, 60 Hz, 5.0 Amps, 500 Watts

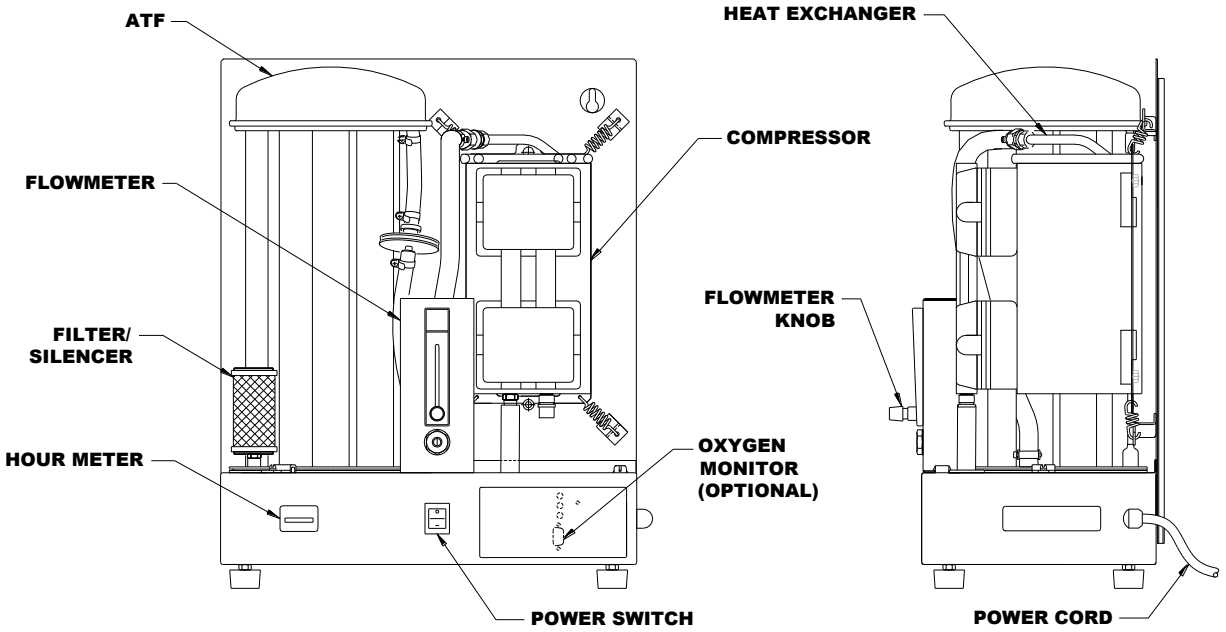
Environment

The Oxygen Generator is not weather proof; it must be operated indoors or in an enclosure in a noncondensing environment. If the space is occupied, sufficient ventilation must be provided to prevent the accumulation of low oxygen concentration waste gas in the space.

Temperature (Operating): 40°F to 110°F
Temperature (Storage): -20°F to 170°F
Humidity: 0 to 95% RH
Barometric Pressure Range: 28 to 31-inches of Hg
Ambient Oxygen Concentration: 20.0% minimum

Mechanical

Maximum Dimensions: 21.75"H x 17"W x 10"D
Weight: 58 lb.



(UNIT SHOWN WITHOUT COVER)

Service Parts

Service parts listed below can be obtained directly from Ozone Solutions. Hose can generally be obtained locally; specifications are listed below. Always replace hoses with equal or better specifications. Other parts are not considered regular service items. Please contact Ozone Solutions directly for further information on other parts.

Service Parts

Service Part	Ozone Solutions Part Number	Quantity Used
Module 120/220VAC/60Hz	1245	1
Compressor 120VAC/60Hz	3225	1
Compressor Rebuild Kit	1357	1
Compressor Inlet Filter	1407	1
Pressure Relief Valve	1368	1

Replacement Hose

Hose Size (ID x OD)	Construction	Working psi at 70°F	Temperature Range (°F)
1/2” x 7/8”	Reinforced silicone	141	-40 to 175
1/4” x 1/2”	PVC	70	-40 to 175

How to Contact Ozone Solutions

By mail:

Ozone Solutions, Inc.
451 Black Forest Rd
Hull, IA 51239

By telephone: (712) 439-6880
By fax: (712) 439-6733
By e-mail: **sales@ozonesolutions.com**