CDA-75 Ozone Scrubber

Installation and Operation Manual

Cautions, Warnings and Hazards

Ozone is a powerful oxidizing agent. Observe strict operating procedures when using ozone equipment.

Ensure that the ozone scrubber is operated in clean, dry, climate-controlled environment. Do not allow rain or condensation to contact the ozone scrubber.

Note: If the operator has asthma, he/she must not enter an ozonated airspace. Ozone can induce an asthma attack.

Carefully review and familiarize yourself with the following important safety information statements concerning the use of ozone.

WARNING Ozone is an extremely aggressive and powerful oxidizer. The Occupational Safety and Health Administration (OSHA) 8-hour exposure limit is 0.10-PPM. The OSHA 15-minute exposure limit for ozone is 0.3 PPM. Above 0.3 PPM, there is the risk of damage to respiratory tissues.

WARNING People who have no sense of smell should not operate this equipment.

WARNING **Never** attempt to verify ozone production by directly breathing or smelling the ozone outlet or an ozone-tubing outlet.

Table of Contents

Table of Contents

Introduction

Catalytic ozone scrubber destroys ozone in ambient air at an air flow-rate of 75 CFM.

Built-in fans flow air past catalyst material designed to revert ozone safely back to oxygen. 90% efficient at 75 CFM air flow-rate.

Air flows into the large screened ends on the CDA-75 and exits the fan holes on the sides of the CDA-75. Catalyst material is placed at the air entry point of the CDA-75, with the fans at the outlet. This ensures ozone levels in the air are low when passing over the fans and electrical connections inside the CDA-75. Magnetic levitation fans are used for airflow this ensures a long fan life and eliminates any steel ball bearings from the fans that could fail due to oxidation over time.

The CDA-75 uses 24 VDC fans for safety. An external 120/220 VAC to 24 VDC power supply that is UL listed is provided with the CDA-75 to power from either a 120 or 220 VAC power source.

Components

Installation

The CDA-75 must be connected to electrical power for operation. The CDA-75 operates on 24 VDC power provided by the included power adapter. The power adapter must be plugged into either 120, or 220 VAC power (depending upon factory configuration).

Use the CDA-75 on a flat stable surface, either the floor, a bench, or table.

Ductwork can be attached to the CDA-75 if desired but may restrict airflow if not designed to handle 75 CFM of airflow.

Location

Ensure the location of the CDA-75 is clean and dry. Excess humidity, dust, or VOC's in the air will contaminate the catalyst used in the CDA-75 and lower the ozone destruction efficiency.

Ambient air should be at or below 80% relative humidity.

Environment should be as dust free as reasonably possible and free of VOC's in the air.

Operation

The CDA-75 has a power switch to turn the system ON or OFF. This switch turns the fans in the unit ON or OFF to start or stop airflow through the CDA-75.

75 CFM of air will flow through the CDA-75 forced through by the internal 24 VDC fans.

Restriction to the inlet or outlet of the CDA-75 will lower the airflow.

90% ozone reduction is provided at a flowrate of 75 CFM.

The CDA-75 should be used in a maximum ozone concentration of 200 ppm. Higher ozone concentrations will potentially damage the fans and cause excessive degradation to the ozone destruct catalyst.

Ozone Degradation

To determine ozone degradation in air using the following data.

Air Flow	Ozone Level in air (ppm)	Ozone level at given airflow (mg/hr)	Ozone removed by the CDA-75
75 CFM	200 ppm	54,505 mg/hr	49,054 mg/hr
75 CFM	100 ppm	27,252 mg/hr	24,526 mg/hr
75 CFM	50 ppm	13,626 mg/hr	12,263 mg/hr
75 CFM	10 ppm	2,725 mg/hr	2,452 mg/hr

Service and Maintenance

There are two main failure parts of the CDA-75

- 24 VDC fan (part number = Fan 4.7 DC24V)
  - One fan is used. If there is no airflow through the CDA-75 when power is applied, the fan should be replaced.
  - This is available by calling our office and can be replaced in the field

- Destruct Media (part number = Ambient Destruct Media)
  - The destruct media will become contaminated over time and loose efficiency. When this has occurred the CDA-75 can be returned to our office for refurbishment. Both the media and fan will be replaced.

Specifications

Nominal Gas Flow: 75 CFM

Environment:
Operating Temperature: 0°F to 125°F

Mechanical:
Power: 120 or 220V 50/60Hz (upon request)
Dimensions: 16”Long x 8”Wide x 9” Tall
Weight: 8 lbs

Contact Info

Oxidation Technologies, LLC
214 US Highway 18
Inwood, IA 51240

Phone: (515) 635-5854

E-mail: info@oxidationtech.com