

AN5200 | abator



The EOGas Abator System has been designed to work with all models of Andersen EOGas Series 3 sterilizers. It will abate 1,800 10.5 gram EOGas cartridges, extracting over 98% of the ethylene oxide in the exhaust air stream.

There are no electrical connections or electrical components in the EOGas Abator cabinet itself. Electrical connection is to the extractor blower only, which is set to operate continuously. Operation of the EOGas Sterilizer changes very little with the addition of the abator.

Please refer to the Operators Manual for your EOGas Sterilizer if you have any questions related to the sterilization process or preparing items for sterilization. If you have additional questions or are uncertain about an item's suitability for ethylene oxide sterilization, please contact an Andersen Customer Service Representative.

Technical Features

- ▶ **Cabinet:** The cabinet is fabricated from mill finish stainless steel sheet. The door is attached to the body of the cabinet by six stainless steel latches. The bottom is fitted with four stainless steel and hard rubber casters.
- ▶ **Extractor Fan:** The extractor fan is a radial blade blower available in the following voltages: 115 volt and 230 volt 1/2 hp.
- ▶ **Hoses:** The hoses that attach the sterilizer to the abator and the abator to the extractor fan are industrial strength, spiral reinforced PVC ventilation ducts.
- ▶ **Barrel:** The abator barrel is molded of polyethylene and contains 120 lbs of ionic exchange resin.

Equipment Summary

Environmental Conditions

The EOGas Abators are designed to function in an environment with these conditions:

- i. Indoor use;
- ii. Altitude up to 6,562 feet (2000 meters);
- iii. Temperature 68° F (20° C) to 91° F (33° C);
- iv. Maximum relative humidity 80% for temperatures up to 87.8° F (31° C) decreasing linearly to 50% relative humidity at 104° F (40° C);
- v. Mains supply voltage fluctuations not to exceed $\pm 10\%$ of the nominal voltage;
- vi. Transient overvoltages according to INSTALLATION CATEGORY (OVERVOLTAGE CATEGORY) II: Local level, appliances, portable equipment, etc. capable of withstanding 1500 volts impulse;
- vii. POLLUTION DEGREE 2 in accordance with EC 664.

Equipment Rating

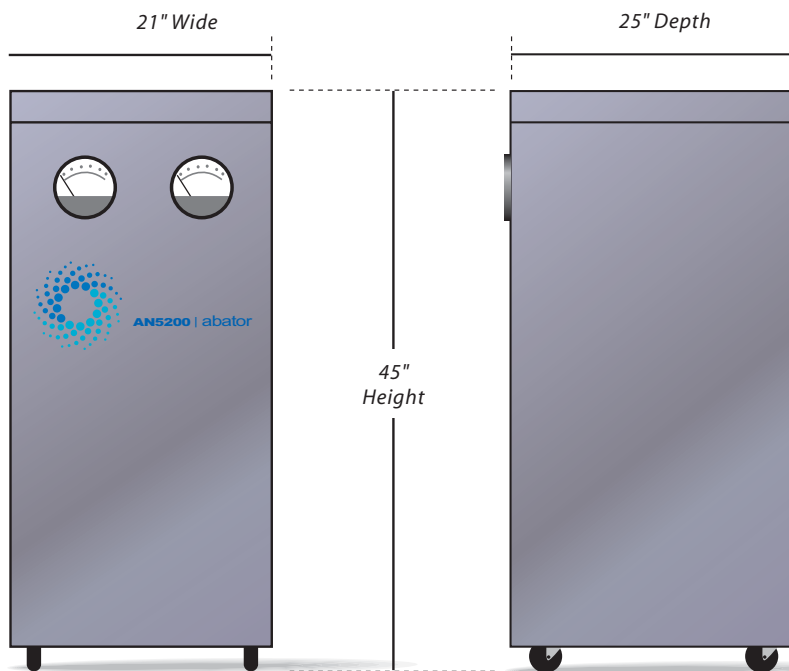
Voltage	Hz.	Amps
115	60	6.7
230	60	3.4
220	50	6

Connections

Nominal voltage depending upon model selected connected to a grounded, unswitched power supply.

Weight

218 lbs complete
 153 lbs Barrel only
 34" Tall x 20" Diameter Ring



Manufactured by: Andersen Sterilizers, Inc.

Ethylene Oxide abator used with the Andersen Products EOGas Sterilizer

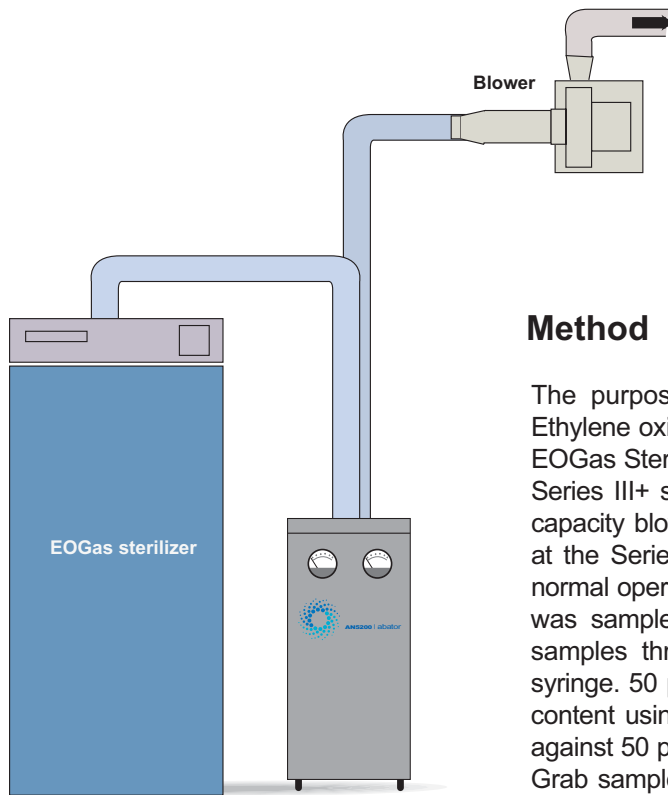


Figure 1

Method

The purpose of this study is to determine the efficacy of an Ethylene oxide (EtO) abator when used together with a Series III+ EOGas Sterilizer. The abator was connected to the exit vent of the Series III+ sterilizer and exhausted to the outside through a high capacity blower downstream of the abator (see Figure 1.). Airflow at the Series III+ vent was measured to be 280-300 fpm during normal operation and 500 fpm during a purge cycle. The airstream was sampled before and after the abator by withdrawing grab samples through neoprene septa into a 50 ml gas-tight glass syringe. 50 µl aliquots of the grab samples were analyzed for EtO content using gas chromatography. The samples were analyzed against 50 ppm (before abator) and 1ppm (after abator) standards. Grab samples before and after the abator were taken alternately; approximately 10 minutes were required between samples for analyses and restandardization of the gas chromatograph. Samples were taken during the first three hours of the sterilization cycle starting at 15 minutes after placing a load into the sterilizer and activating the EOGas cartridges. Number 5, and 6 EOGas bags containing dummy loads consisting of drapes, surgical wrap, and plastic catheters were used to simulate a typical sterilization load. Control samples were analyzed at time 0 to confirm that no EtO was present in the sterilizer system.

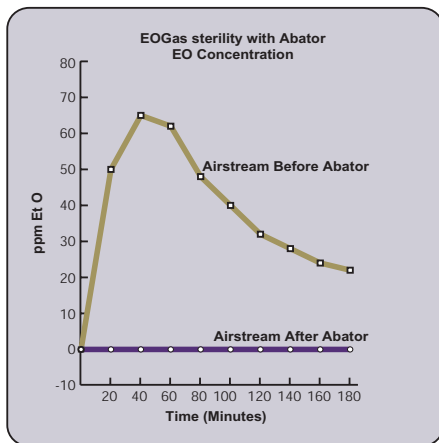


Figure 2

Discussion

The concentration of EtO in the airstream before the abator (i.e. untreated exhaust) rose during the first hour of sterilization to a peak of about 60 ppm. Thereafter it decreased, declining to about 25 ppm at the end of the three hours. At no point could any EtO be measured in the airstream after the abator (see figure 2.). EtO removal from the Series III+ EOGas Sterilizer airstream by the abator at a rate of efficiency greater than 99% was confirmed.