

NOTES:

1. The ethylene oxide (EtO) supply cylinders should be placed in a ventilated cabinet or a partially enclosed hood with an exhaust rate, Q_C , of at least 100 cfm/ft² of open area. Install a hinged plexiglass shield to protect maintenance personnel during cylinder change out. (See VS-25-13)
2. The anti-siphon air gap in the sterilizer evacuation drain line should be enclosed and ventilated. The enclosure should have one or two openings to allow air, Q_D , to enter and to prevent liquid, which might back up from the drain, from reaching the sterilizer evacuation line. In lieu of a greater value specified by the sterilizer/vacuum pump manufacturer, Q_D , should be approximately 50 cfm and the openings sized to maintain approximately a 600 fpm face velocity.
3. The overpressure relief valve should be vented to carry EtO out of the building if it should ever open. With a sealed line connecting the valve with the ventilation duct, there will be no ventilation volume, Q_V , except when the valve opens. Consult the sterilizer manufacturer for the proper size of this line; too much resistance could interfere with the proper venting of the chamber.
4. A hood should be placed above the sterilizer door to remove EtO rising from the chamber when the sterilizer door is "cracked" open a few inches approximately 15 minutes before the sterilized items are removed from the chamber. See VS-25-12 for a discussion of the exhaust volume, Q_S , requirements.
5. If an aerator is installed, its door should be hinged, and it should be placed beside the sterilizer so that the doors of the gas sterilizer and aerator opens away from each other to facilitate transferring the sterilized items. Consult the manufacturer for the required air flow, Q_A .
6. The room behind the wall enclosing the sterilizer(s) and other equipment should be exhausted adequately to handle the air driven to the ceiling by the thermal gradients caused by the heated equipment. The ideal arrangement would be to have a properly sized vent above each piece of heated equipment. The total Q_R should be the sum of the values for each piece of heated equipment (see VS-25-10) plus 100 cfm/ft² of open area for transfer vents placed in the upper portion of the room. However, federal hospital standards specify that, for a recess room containing a gas sterilizer, the volume exhausted in one hour should be at least ten times the room volume. Transfer vents placed in the lower portion of the room will help the influx of air to supply the thermal air currents and would not add to the total exhaust requirement.
7. All air that could contain EtO should be exhausted through a ventilation system which does not have vents in any other rooms. The discharge of the fan on the roof should be located so that the exhausted air will not re-enter the building or expose people outside the building. This ventilation system should have a flow sensor/alarm to warn if it is not functioning properly. If there is the possibility of lint in the exhausted air use a different pressure sensor or some other type that will not be clogged or stuck open by the accumulation of lint.



TITLE

ETHYLENE OXIDE STERILIZER NOTES

FIGURE

VS-25-11

DATE

12-99