T

PHOTOS COURTESY LSI

The Oxylator EM-100 and EMX systems operate with a mask, ET-tube or other airway device.

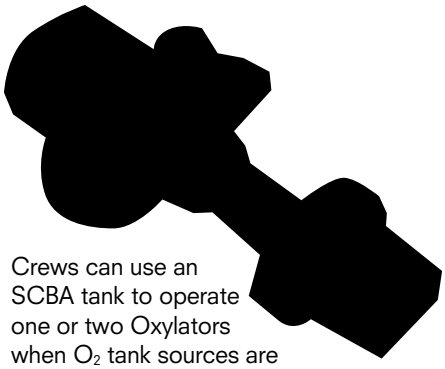
The Oxylator can use a special SCBA regulator to deliver sustained ventilation to patients.

Hands-free use: The Oxylator's hands-free cycling ventilation not only provides the efficiency of a ventilator during transport, but its accommodating technology prevents the potential for guessing wrong on the patient's inhalation:exhalation (I:E) ratios. Thus, "stacking" of breaths or trapping of air is prevented, even in less experienced, tired, distracted or excited hands. The stacking problem can occur with other ventilation devices, like the BVM, demand valves and many vents, but not with the Oxylator EM-100 or Oxylator EMX.

Use during CPR: One of the nicest things about the Oxylator is that it's designed to be used during CPR. The Oxylator offers another "set of hands" if you're caught in a situation when you might be required to do CPR by yourself while other team members are busy with their own victims or when you need to administer lifesaving medications or treatment while your partner performs CPR on the patient. The Oxylator's technology cycles the patient's ventilation in sync with your chest compressions, thus delivering added volumes to the patient when needed. If it senses the pressure created by a compression, it holds the ventilation until immediately after it. An optional extension with 99.99% ("hepa" type) bacterial/viral filter (see photo lower right) and HME (heat moisture exchanger) with swivel (LSI part # CPR-29) allows you to filter out exhaled impurities as well as reduce drying of the patient's airways by trapping exhaled humidity to be returned to the patient on the following inhalation. This airway extension with filter/HME swivel also allows you to place the Oxylator on the stretcher next to the patient's head for easy access and viewing by the EMS personnel.

Consistent breaths or volumes: The provision of consistent breaths could be accomplished only by a ventilator prior to the introduction of the Oxylator technology. BVMs can't deliver consistent and proper volumes to a patient over an extended transport. Patients who might buck a vent won't buck the Oxylator because its technology works *with* the patient's natural breathing pattern, not against it.

Flow times: Lifesaving Systems Inc. (LSI) has determined approximate tank capacity run times for the Oxylator EMX. The manufacturer, CPR Medical Devices Inc., of Toronto, has indicated that the utilization of compressed gas by the Oxylator EMX varies between 10 and 12 liters per minute and is affected by the patient's inhalation lengths and I:E ratios. LSI, therefore, calculated approximate tank capacities using 11 liters per minute consumption rate. (See Table 1 below.) By comparison, LSI indicates that a "D" tank capacity (~396 L) at normal flows will last approximately 15 minutes when used with a BVM.



Crews can use an SCBA tank to operate one or two Oxylators when O_2 tank sources are depleted or can't be readily replenished.

PHOTO A.J. HEIGHTMAN

This optional extension offers a 99.99% bacterial viral filter and heat moisture exchanger.

Mass casualty situations: During confined space rescues or multiple casualty situations, the Oxylator EM-100 or Oxylator EMX can be invaluable. Rescue personnel in Turkey used Oxylator EM-100s during the aftershocks of the recent earthquakes, and the Department of Homeland Security's National Medical Response Teams (NMRTs) have found the Oxylators easy to operate, safe and efficient even when used by rescuers in bulky hazmat suits and wearing thick gloves.

SCBA regulator with two 50 PSI

Table 1:

Table 2