



INHALATION ANESTHESIA SYSTEMS

HONEST ANSWERS FROM KNOWLEDGEABLE PEOPLE

Oxygen Supply Sources

Compressed oxygen is the most common carrier gas used in anesthesia machines to support the metabolic needs of the patient and to deliver the anesthetic agent. If your facility does not have oxygen lines plumbed in the wall or ceiling, you will need to use cylinders in your procedure area to provide the oxygen.

Regulators

Cylinders of oxygen are usually delivered in two standard sizes, "E" and "H". Regardless of the size, cylinders must have regulators attached to them to drop the initial cylinder pressure to a usable 50-55 pounds per square inch (PSI). Some regulators incorporate a second stage, whereby the 50-55psi is again reduced into liters per minute (LPM). Since all standard anesthesia machines already have flowmeters to change the PSI to LPM, this second stage is not only unnecessary, it impairs the performance of the anesthesia machine. It is important to utilize only pressure regulators, not flow regulators.

Volume

E-cylinders hold approximately 651 liters of medical grade oxygen (USP) and are easily moved or mounted directly onto an anesthesia machine. H-cylinders hold approximately 7107 liters of medical grade oxygen (USP) and are far too heavy to be considered portable. At a use rate of 1 LPM, these volumes equate to approximately 11 hours (E) and 118 hours (H) of use, not including oxygen flush time, which greatly exceeds the 1 LPM rate.

Comparisons

As a rule, H-cylinders cost about twice as much as E-cylinders to fill. However, H-cylinders deliver 10 times more oxygen than an E-cylinder. If you will be using your anesthesia machine in a limited number of locations, you may want to opt for an H-cylinder in each area. Operational costs are less, as is the hassle of calling for tank refills. All cylinders, when not directly attached to an anesthesia machine or cylinder cart, should be mechanically secured to a solid surface for safety.



INHALATION ANESTHESIA SYSTEMS

HONEST ANSWERS FROM KNOWLEDGEABLE PEOPLE

	E-Cylinder	H-Cylinder
Height	30"	54"
Diameter	3.5"	8.5"
Volume - Liters	651	7107
Initial Pressure	1800 PSI	2200 PSI
Approx. Hrs. Use @ 1 LPM	11	118