

Medical Ventilator

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A medical ventilator is basically a machine that is used to move air into and out of a patient's lungs who has a hard time breathing (or who cannot breathe) on their own. Ventilators are most commonly seen in the intensive care unit at a hospital, in home care, and in emergency rooms. They are also a component of an anesthesia machine which is used during a surgery in which the patient is operated on via anesthesia.

A medical ventilator consists of a compressed air reservoir, oxygen supplies, a set of valves and tubes, and patient circuit. The air reservoir is compressed a few times per minute and it delivers air from the room into the patient.

Ventilators also consist of a monitor and alarm to keep track of the pressure, volume, and flow of the air as well as warnings for errors with the ventilator such as air leakage, power failure, or some sort of mechanical failure. Also equipped with the ventilator are oxygen tanks, a remote control to operate, as well as backup batteries.

There are two methods for implementation of this device: invasive and non-invasive. The noninvasive method is used when patients only need the ventilator while sleeping or resting and the patient just puts on a mask at these times. The invasive method usually results in the patient having a tracheotomy, which is a surgical

procedure that places a tube in the trachea (neck).

The ventilator is considered a life-critical system, meaning that if this machine has a mechanical failure, the result could possibly result in the death of the patient. That means that these machines are designed very carefully and have some sort of backup to provide oxygen manually in case there is power failure. Many of these are equipped with backup batteries as well.



<http://www.medical-alert-monitoring.com/medical-ventilator/>

<http://www.patentstorm.us/patents/6390091/description.html>

<http://www.freepatentsonline.com/7000612-0-large.jpg>

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