



Information on the oxygen usage of the Tafonius ventilator

- The Tafonius ventilator does not require any pressurised gas to drive the piston or any bellows.
- Tafonius uses a unique motor-controlled piston to deliver accurate tidal volumes.
- Tafonius has a built-in circle system and anaesthetic circuit
- The only oxygen required by the machine is for the patient circuit.
- In a closed, Low-Flow anesthetic circuit, the minimum metabolic oxygen requirement is all that is required
- Gases, such as Air and Nitrous Oxide can easily be mixed with oxygen to produce any required FiO₂ between 0.21 and 1.00

Example:

500kg horse

The metabolic requirement for a 500kg horse is approximately 5ml/kg/minute, or 2500mls/minute (2.5L/min).

In the early stages of an anaesthetic the Fresh Gas Flow (FGF) will be higher than this for denitrogenation and to increase the speed of delivery of anaesthetic agent. Initially it may be set between 4-8L/min.

Once the patient is settled, the oxygen FGF can be reduced to the lower level to supply approximately the metabolic requirement only. Tafonius automatically allows the patient to be run in any condition from extreme Low-Flow anaesthesia to a high-flow, semi-open system.

Notes:

There is a relationship between the delivered fresh gas flow and the use of soda-lime in a circle system. When a circle system is run as a Low-Flow closed circuit, then any CO₂ produced by the patient must be removed by the soda-lime and in this situation soda-lime depletion will be much quicker.

When a circle system is run as a semi-open system (incoming FGF significantly more than metabolic requirement) then portions of each expired breath will be lost through the evacuation valve before reaching the soda-lime and therefore soda-lime depletion will be slower, although anaesthetic agent consumption will be higher.