Alveolar ventilation = (TV)² (frequency)
TV ≈ Delta P

Increased alveolar ventilation will increase CO₂ removal

To increase alveolar ventilation, increase the Delta P or increase the rate or frequency (up to 420 bpm or 7 Hz)

---

**Frequency Changes**

1. Lower Freq allows increased expiratory time (longer I:E ratio) which minimizes air trapping (use to treat PIE, pneumothorax).

2. Lower Freq will decrease alveolar ventilation (to avoid hypocarbia).

3. A higher Freq > 7 Hz (420 bpm) may improve oxygenation by increasing lung volume from decreased expiratory time (shorter I:E ratio), but increases the risk of air leaks.

---

* Tidal volume basically doesn't change with the frequency on the Jet ventilator.