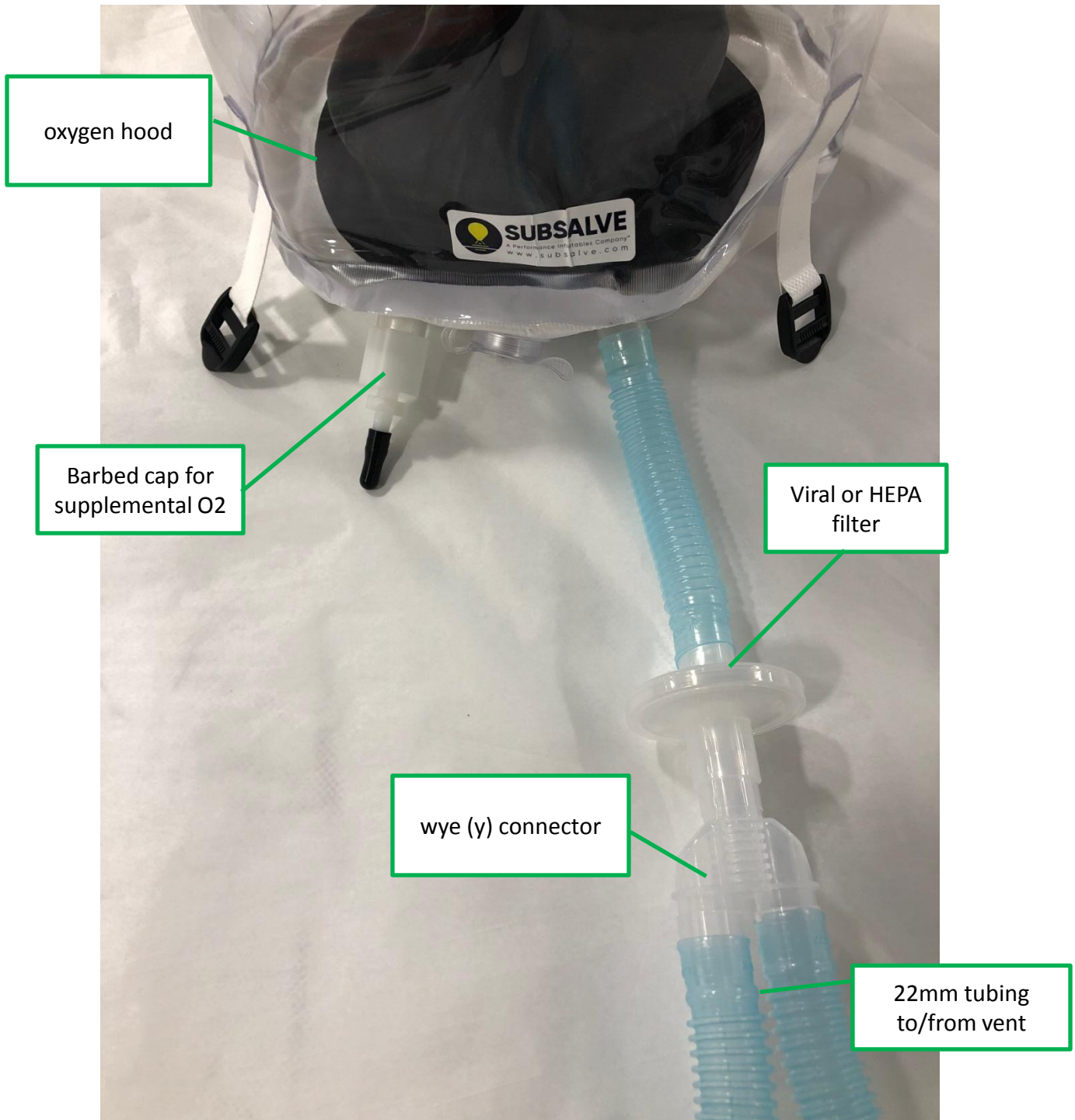


Hamilton Ventilator or Equivalent Configuration Guide

The below circuit allows bilevel pressure support with Hamilton Ventilators or devices with comparable functionality.



Configuration Guide | Hamilton Ventilators or Equivalent

Instructional Guidance

Configuration

- Configure hood as pictured. Do not use coaxial circuits.
- Insert a bacterial/viral filter at the inspiratory and expiratory port of the ventilator.

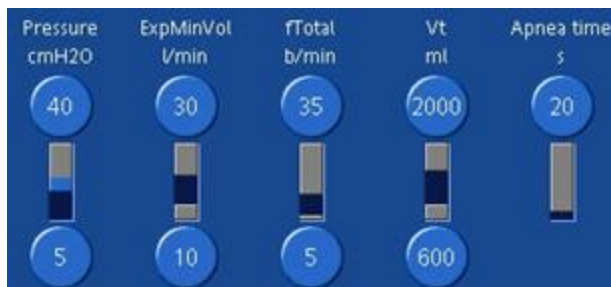
Mode selections

- If available, select NIV mode.
- If there is no NIV option, consider using PCV+/PCMV.

Alarm settings

- Adjust the alarm limits to avoid unnecessary alarming.

Mode controls



Note: Two ventilated compartments in sequence = hood + lungs.

- Pressure ramp Set to the fastest speed possible
- PEEP Target PEEP + 30%–50%
Minimum PEEP 10 cmH2O to increase helmet stiffness
- P support Target P support + 30% – 50%
Minimum P support 12 cm H2O
- Inspiratory trigger Start with 2 l/min and maintain as low as possible
- ETS Start with default ETS of 25%, monitor for cycling asynchronies and adapt accordingly
- TI max Set to 1.5 s to avoid late cycling
- Oxygen Start with Oxygen = 60% and titrate based on SpO2.
Note: Single gas source (100% oxygen) may limit peak flow capacities

Monitoring

- Tidal volume Between 1,000 and 1,500 ml
Note: ~ 50%–75% of the VT delivered is distributed to the helmet! (12)
- ExpMinVol > 25 l/min to have sufficient CO2 washout. Efficiency can be monitored with PCO2 monitoring inside the hood.

Tips

- Measure partial pressure of CO2 inside the helmet (PCO2h) in a “silent” part of the hood (e.g., place the sensor directly above the neck seal) to detect CO2 rebreathing. Use a mainstream or sidestream CO2 sensor from the ventilator or the monitoring system. PCO2h should not be above 5 mmHg/0.6 kPa.
- If CO2 rebreathing is suspected, add a supplemental flow of > 10 l/min via the barbed cap placed on the unused port on the hood.
- Increase pressurization by activating TRC (100%)

Treatment

- Implement treatment and monitor patient according to clinical best practices.

Adapted from: https://www.hamilton-medical.com/en_US/E-Learning-and-Education/Knowledge-Base/Knowledge-Base-Detail~2020-04-22~Helmet-NIV-%28NIPPV%29-ventilation-on-adult-COVID-19-patients~ad615df8-e219-412c-bbd2-61b5390ab736~.html. Accessed 02/23/2021.