

HYVAN

Machine Checklist and Operating Instructions

Checklist

Connect Hyvan to air/oxygen supply and turn machine on

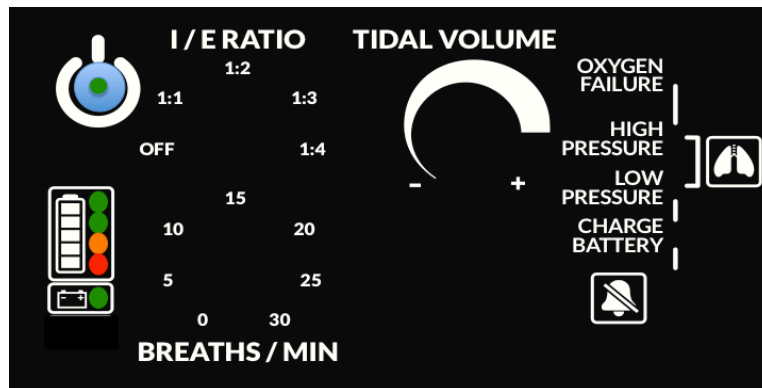
- **Self Inflating Bag (SIB)** attached
- **Power Supply** - Plugged in, power on, battery charged
- **Gas Supply** – “Tug test”, Cylinders filled and turned off, flow meters functional, oxygen flush working
- **Breathing System** – Whole system patent and leak free using ‘two-bag’ test. Vaporizers fitted correctly, filled and leak free. Soda lime canister properly applied with fresh sodalime.
- **Ventilator** – working and configured correctly
- **Scavenging** – working and configured correctly
- **Alarms** – working and configured correctly

The “Two Bag” Test

This test should be performed after the breathing system, vaporizer and ventilator have been checked.

- Attach a test bag to the patient end of the breathing system.
- Set oxygen flow to 5 litres/min and squeeze self inflating bag.
- Check the whole breathing system is patent and unidirectional valves working properly
- Turn ventilator on and start ventilating. Turn oxygen flow 0.2 litres/minute and open and close vaporiser. There should be no drop in volume. Ensure bellows remains fully inflated.

Operating Instructions



Example: Anaesthetising an 80 kg adult.

Spontaneous Ventilation:

- **THE ON/OFF Button** – Push to turn Hyvan **ON**
- **I/E Ratio** – Set knob to **OFF**
- Ensure the pressure control valve at top of bellows canister is closed.
- Pre-oxygenate patient. The bellows act as a breathing bag and anaesthetist can visually check the rate and depth of breathing.
- Use oxygen flush if required to fill the bellows.
- Induce patient and turn on vaporizer. The patient can breathe spontaneously or anaesthetist can assist with the SIB.

Using the Ventilator:

- **Breaths/minute** – Set to 12 breaths per minute.
- **I:E ratio** - turn to 1:2. This will start the ventilator cycling
- **Tidal Volume** - adjust until the delivered tidal volume is approx 400 ml.
- This gives a minute volume of 4.8 litres (400 x 12).
- **End of the operation:** I:E ratio is turned to “OFF”. This stops the ventilator cycling but the patient can breathe spontaneously or the anaesthetist can assist ventilation by compressing the SIB.
- If CPAP is required (eg laryngospasm), remove the expiratory limb of the patient circuit from the red Hyvan inlet. Connect the **CPAP VALVE** (set at 30 cm water) to the end of the patient expiratory tube. The CPAP can be read directly from the patient manometer and gas can be ‘bled’ from the facemask to control level of CPAP.

AT THE END OF THE OPERATING SESSION:

- Disconnect the patient circuit and clean as directed
- Disconnect the oxygen and air supply. This will cause the alarm to sound.
- Turn the Hyvan off but leave connected to the electric mains supply.
- If the machine is going to be inactive for a few days, remove and empty water trap, remove the soda lime canister and remove the bellows.

