

Dalhousie SHS

Oxygen Therapy

Oxygen Delivery Devices



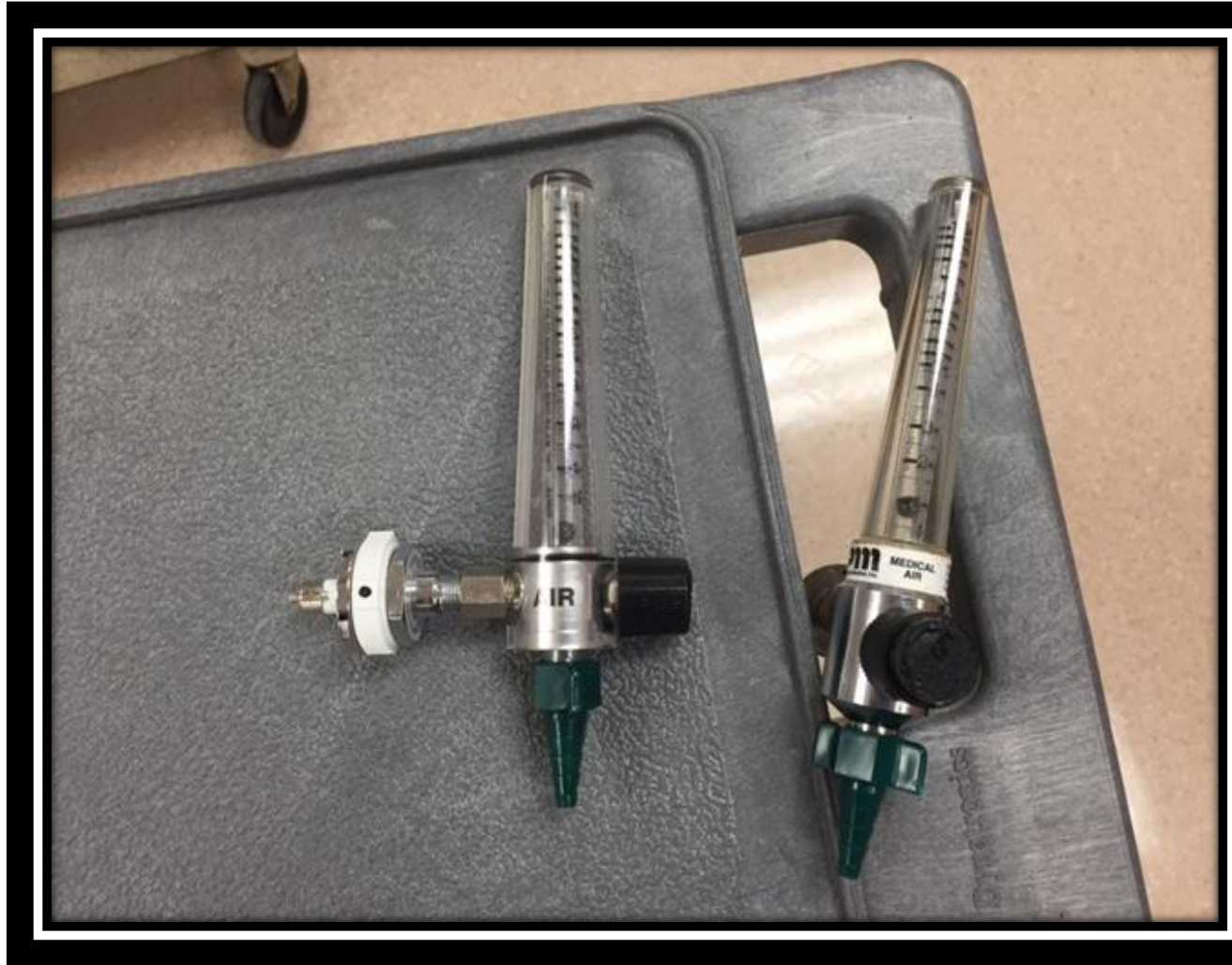
Oxygen flowmeter

- Delivers 100% Oxygen
- 0.5 to 30Lpm



Air Flowmeter

- Delivers Medical Air
- 21% FiO_2
- Flow rate 0.5 to 30 lpm



NASAL PRONGS

- Impossible to know exact FiO_2 .
- .5-5 L/min Flow is adjusted to meet a target SpO_2
- Can use with humidity (Humidity not recommended for flow rates less than 4 L/min)
- Stable patients who can tolerate a low, nonfixed oxygen concentration.
- Not recommended for CO_2 retainers.



HIGH FLOW NASAL PRONGS

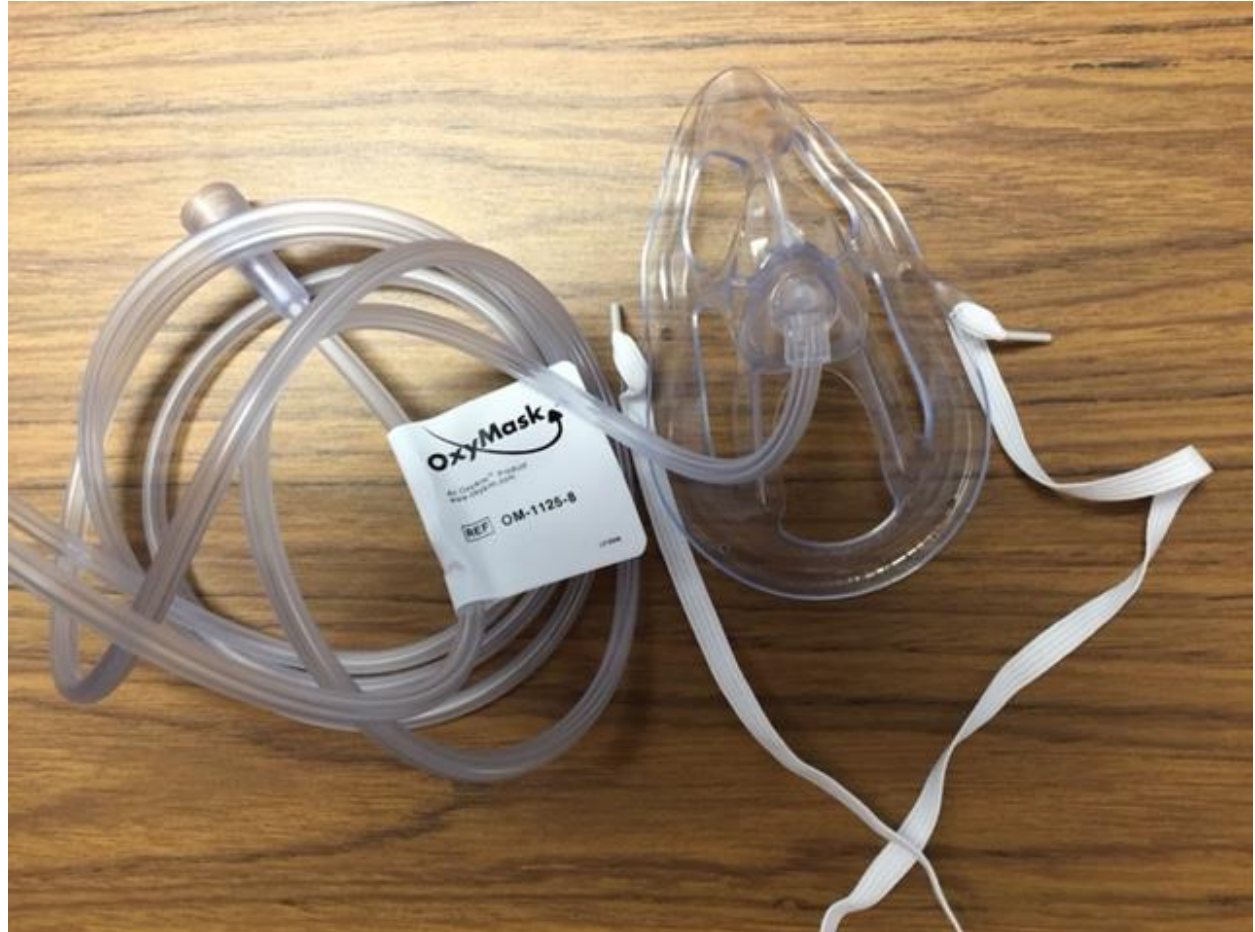
- Impossible to know exact FiO_2 .
- 6-15 L/min
- Patient's who require higher amounts of O_2 .
- Maybe used for eating for patient on face mask.
- Use sterile water for humidity and do not overfill above Max Fill line as it will blow water on the patient's face.



Oxy Mask

- Variable FiO_2 depending on litre flow and patient demand
- Tolerated well by patients
- Approximate FiO_2

Flowrate (LPM)	FiO_2
1	24-27%
2	27-32%
3	30-60%
4	33-65%
5	36-69%
7	48-80%
10	53-85%
12	57-89%
≥ 15	60-90%



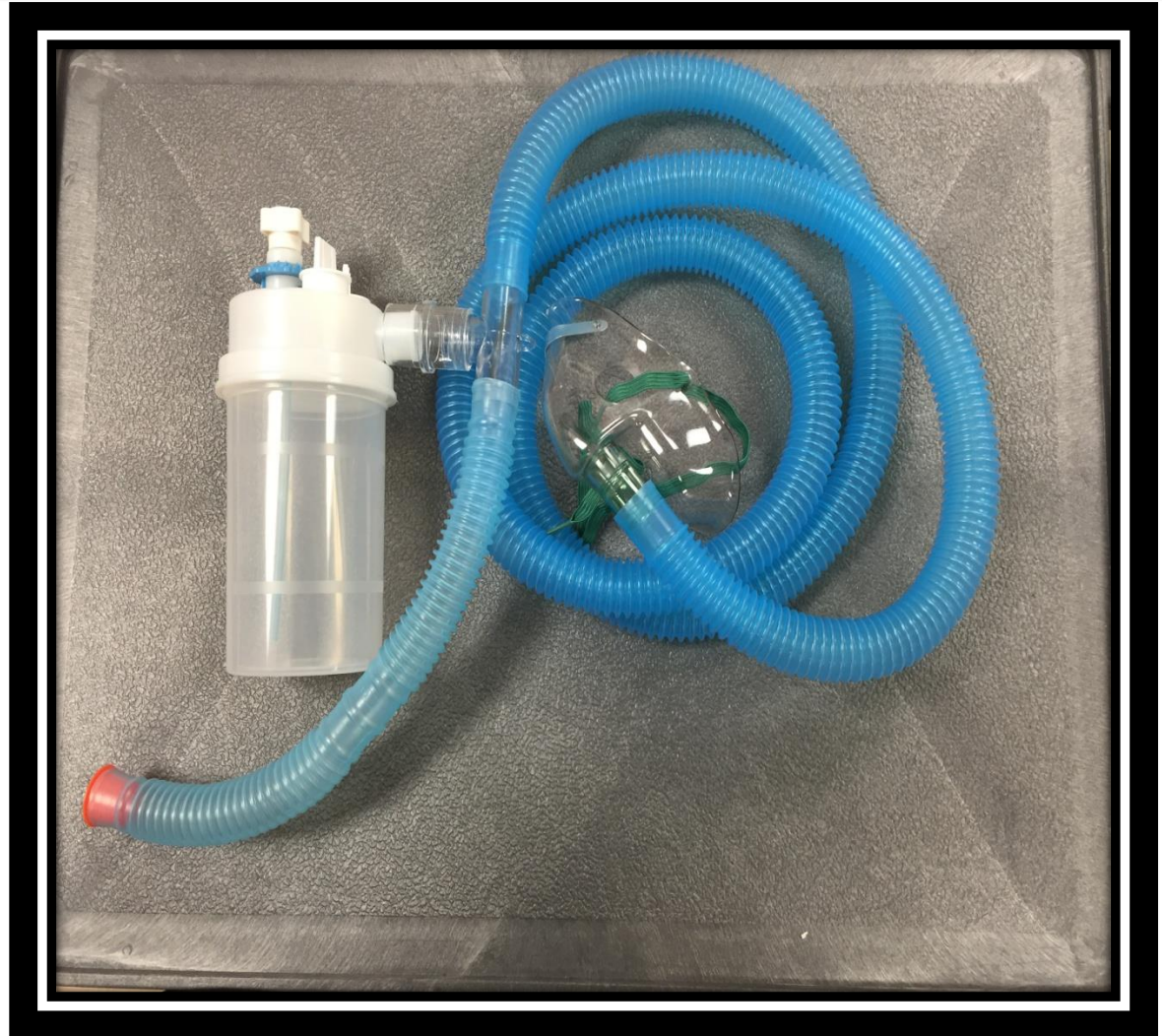
VENTURI MASK

- Device controls the mixture of room air so the inspired O_2 conc is consistent.
- Used with patients who need a fixed FiO_2 such as CO_2 retainers with hypoxemia
- Flow rate for particular O_2 concentration is stamped on the bottom of each Venturi adapter.
- 24% to 50%
Blue 24%-2L/m
Yellow 28%-4L/m
White 31%-6L/m
Green 35%-8L/m
Pink 40%-8L/m
Orange 50%-12L /m



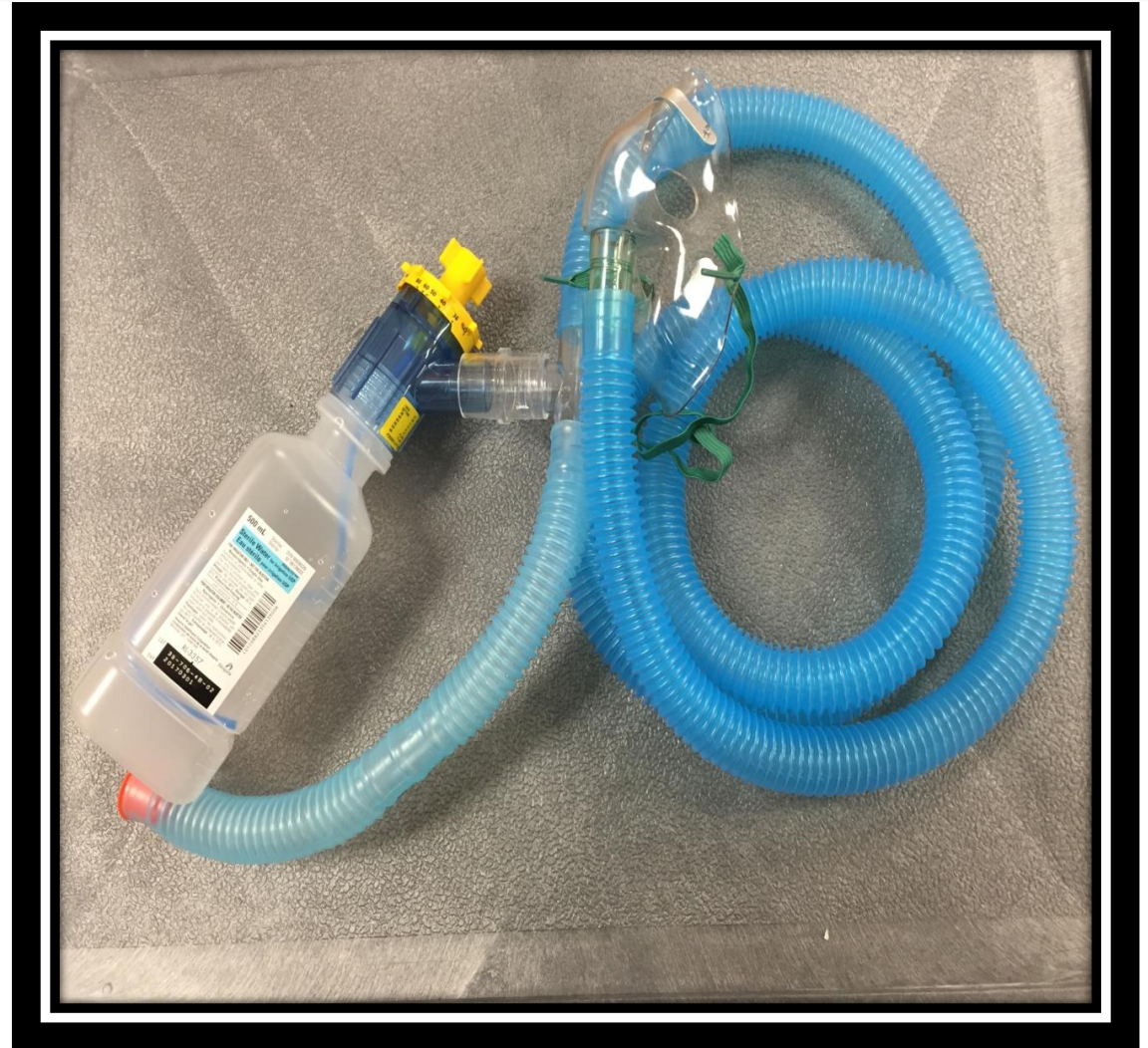
OXYGEN NEBULIZER

- FiO_2 35-100%, but most accurate from 35-50%.
- Note: can place on air flowmeter if humidified air is needed.
- 10-15 L/m.
- Adjust O_2 flow meter so that mist is visible exiting the mask during inspiration.
- Used on patients who require a specific FiO_2 or humidity therapy.
- RT will make all adjustments.

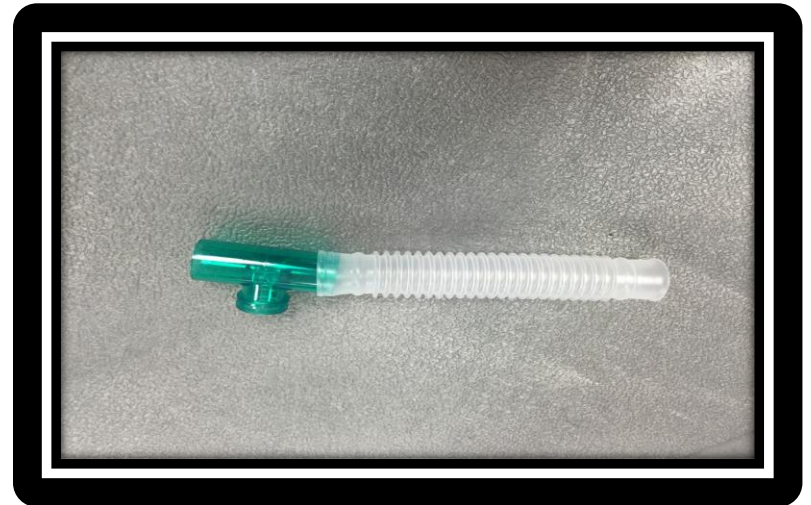


HIGH FLOW NEBULIZER

- FiO_2 levels of 36-95%, most often used for 60% and above
- O_2 flow meter may need to be open all the way (Flush)
- Used on patients who require high amounts of oxygen.
- RT will make all adjustments to this system with an oxygen analyzer.



Interfaces



Emergency Oxygen Equipment



100% NON-REBREATHER

- Close to 100%
- 8-15L/min
- Flow rate needs to be high enough to ensure reservoir bag is inflated.
- Ideal for emergency situations when patient needs high inspired- O_2 concentration for a short time
- Designed with a one-way valve between the mask and reservoir so that exhaled CO_2 is not rebreathed and oxygen in reservoir bag is not diluted.



Resuscitation Bag

- Used to provide 100% oxygen for patients who require assistance with ventilation
- Can be used with a endotracheal tube, tracheostomy tube or with a face mask



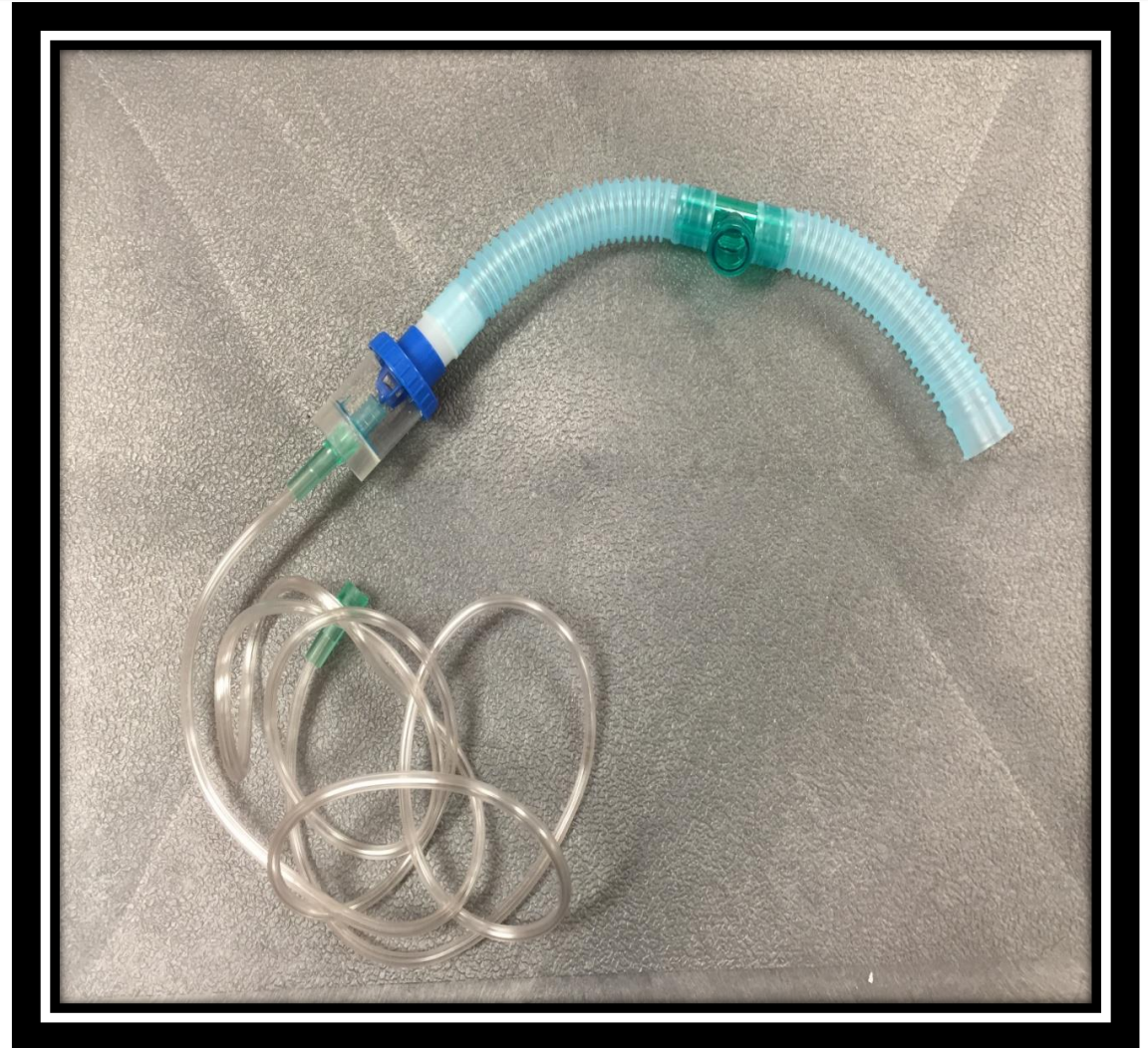
AEROSOL MASK

- Place on medical air if patient on 40% O₂ less. Place on oxygen if patient on greater than 40% O₂.
- 6-8 L/min
- Use with 3-5mls of drug. If a nebula only has 2 ml, then top up with N/S. This is to ensure proper aerosolized particle size and lung disposition.



AEROSOL TO T-PIECE

- Aerosol
- Place on medical air if patient on 40% O₂ less. Place on oxygen if patient on greater than 40% O₂.
- 6-8 L/min
- Use with 3-5mls of drug. If a nebula only has 2 ml, then top up with N/S. This is to ensure proper aerosolized particle size and lung disposition.



AEROSOL CHAMBERS

- Used with trachs alone or with Resuscitation bags.



Oxygen Tank

- EZ-OX type tank- no regulator required
- Flow rate ranges from 0.5L/min to 25L/min.
- Length of time tank will last depends on the flow rate
- Tank is running low when the arrow on the gauge is in the red zone (<500PSI)



High Flow Therapy- AIRVO 2

- The Airvo 2™ is a humidifier with integrated flow generator that delivers warmed and humidified respiratory gases to spontaneously breathing patients through a variety of patient interfaces.
- High Flow Therapy (HFT) via the Airvo 2™ is able to deliver a user set fixed FiO_2 at high flow rates.
- FiO_2 : 21% - 95%
- Flow rates: 15lpm – 60lpm
- Humidification: 31°C - 37°C

