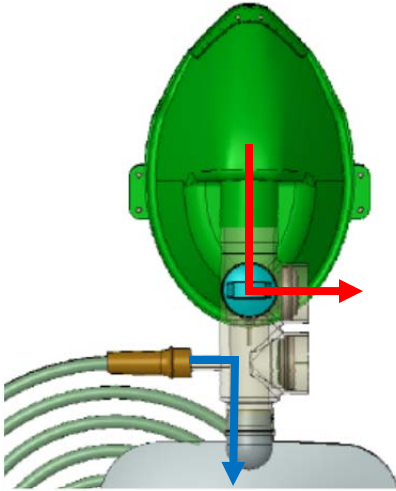
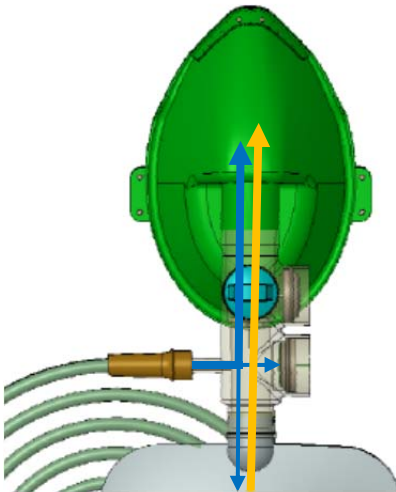


How the Hi-Ox - High FiO₂ Oxygen Mask Works

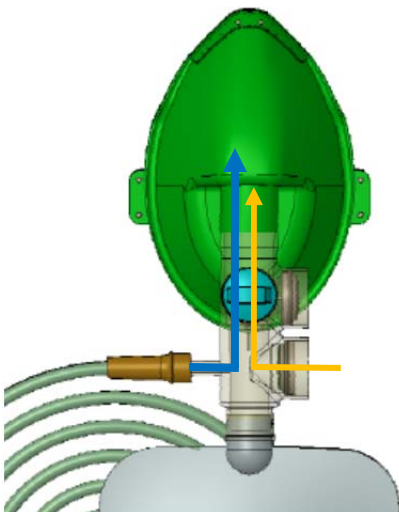
To maximize delivered inspired oxygen, exhalation holes in the mask which, also dilute inspired oxygen, were removed. The 3-valve system separates the reservoir bag inspired oxygen from the exhalation path to the room. The Hi-Ox's third dilution valve's slightly higher cracking pressure, opens only once the reservoir bag is emptied, so that room air is sequentially added at the end of the inspired breath. Taking advantage of the patient's approximate 150 ml anatomic deadspace, which does not participate in gas exchange, the oxygen concentration of that gas in the airways becomes immaterial to the delivered FiO₂ to the alveoli.



During exhalation, the patient's breath flows only out the exhalation valve. There are no holes in the mask for exhaled flow. During this time, the oxygen flow entering the Hi-Ox fills the inspiratory reservoir.



During the patient's inspiration, 100% oxygen entering the Hi-Ox flows up through the inspiratory valve to the facemask without the dilution from holes in conventional masks. The oxygen source also applies closing pressure against the dilution valve and fills the inspiratory reservoir.



If the patient's inspiratory demand exceeds the .75-liter reservoir (and the reservoir has emptied), the dilution valve will open and fill the patient's deadspace with room air. Filling non-gas exchange deadspace limits reductions in alveolar oxygen.