SUMMIT MEDICAL
Equipment Company

UNVERSAL CONTROL ARM (UCA)

THE GOLD STANDARD FOR NON-REBREATHING SYSTEMS

PN: AS-01-0517

FEATURES:

1. Used with BAIN NRB System usually 60” to 72” long.
2. Reservoir Bag can be changed to match size of animal’s tidal volume.
3. Independent “fine tune” Pressure Relief Valve which can be closed down to manually ventilate an animal via “bagging” by the technician, or mechanical IPPV (intermittent positive pressure ventilation).
4. Independent Manometer calibrated in cmH2O (just like the rebreathing system). Safety: Using the manometer, the operator can see the approximate pressure in the animal’s airway.
5. Concentration of anesthetic delivered can be changed almost instantaneously.
6. Can be used in special applications to safely anesthetize animals from 20gm. To 250 lb. Especially useful for MRI applications.

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PRINCIPAL OF OPERATION:

1. Fresh gas from the O2 flowmeter flows at a relatively high rate in relation to the animal's minute volume (tidal volume X breaths per minute).
2. Fresh gas flows directly to the distal end of the Bain Circuit that is attached to the animal's breathing apparatus either via endotracheal tube or face mask / nose cone.
3. During the apneic phase (the animal is not inhaling nor exhaling), fresh gas continues to flow at a relatively high rate. The fresh gas does not go into the animal's lungs, but flows down the exhaust side of the coaxial Bain system. This action flushes the last exhaled breath containing CO2 down the exhaust side of the system. If the flowrate is sufficient, the area of the exhaust tube proximal to the animal is filled with fresh gas.
4. With the next inspiratory effort, the animal receives fresh gas from the fresh gas supply, and the volume of the exhaust side of the system which is now filled with fresh gas. If properly configured, the exhaust gas containing CO2 does not reach the animal's airways again.
5. Using a long Bain NRB system (72"), it is possible to safely anesthetize an animal weighing 250 lbs. The limiting factor is the length of the exhaust side of the Bain and the flowrate for the oxygen flowmeter. In this case, the flowmeter would need to reach approximately 7-8 LPM.

CAUTION: DO NOT USE O2 FLUSH THROUGH NRB SYSTEM

SUGGESTED O2 FLOW RATES USING THE UNIVERSAL CONTROL ARM NON-REBREATHINGSYSTEM (BAIN MANIFOLD WITH 72" ADULT BAIN NRB SYSTEM) BASED UPON ANIMAL WEIGHTS:

0 - 15 lbs 1.5 LPM O2
15 - 45 lbs 2.0 LPM O2
45 - 75 lbs 3.0 LPM O2
75 - 120 lbs 4.0 LPM O2
120 - 160 lbs 5.0 LPM O2
160 - 220 lbs 6.0 LPM O2
220 - 260 lbs 7.0 LPM O2

PLEASE NOTE: THESE ARE ONLY SUGGESTED STARTING POINTS FOR O2 FLOW RATES. USE END TIDAL CO2 MONITOR TO DETERMINE THE DEFINITIVE FLOW RATES.

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