IMPORTANT: The Humphrey ADE-circle System - Fresh Gas Flows (FGF) *Mar 2018*

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ONLINE SHOP www.anaequip.com for all ADE spares, tubes etc. Also for education material.

General comments: (for more copies, in-depth detail, set up, education & future webinars → www.anaequip.com)

- ***The ADE is significantly more efficient than all other systems with its new 4-phase exhaust valve.*** **Design changes reduce fresh gas usage by up to 80%; *but dialled vapour % remains unaltered.***
- For most **healthy animals 50kg or less, a maintenance flow of just 500 ml/min** will be enough!
- **The minimum oxygen flow recommended is 300 ml/min.** This allows for small leaks & vaporizer inaccuracy.
- **Read "Routine Maintenance Instructions" supplied for leak tests, soda lime refills & general info.**
- **If using nitrous oxide, *special conditions apply*** *especially when recycling through soda lime.*
- **Lever position: UP** for ***spontaneous & manual IPPV ventilation.*** *Place tip of finger in exhaust valve screw cap to hold it closed and squeeze bag.* ***Ventilator mode*** – lift/shift lever **DOWN** (details on website).
- **A premedication with analgesic drug** (eg buprenorphine) greatly assists a smooth anaesthetic.
- If a side stream **capnograph or vapour monitor** that samples gas is being used**, the *sample flow*** (often 100-200 ml/min) ***must be added*** to the fresh gas flow recommendations below.

Basic Recommendations: All cats, dogs & other small animals up to 7 kg

Circuit factor = 0.5 – 0.7: FGF 70-100 ml/kg/min. The ADE system really is highly efficient!

- **If using nitrous oxide, use as normal: the O_2 flow must be at least 30% of the mixture ie ratio of $2N_2O$:$1O_2$**
- **Remove canister -** No recycling through soda lime
- **use ½ litre reservoir bag.**
- ***Leak test* is essential before every anaesthetic!**
- **Exhaust valve: fully open after leak test.**
- **Connect to patient – check ET tube doesn't leak: Fill system for 1 minute at 2 l/min with oxygen and vapour to wash out non-anaesthetic gases in bag and tubing.** This considerably speeds up induction.
- **Continue with induction flows and reduce to maintenance levels** on approaching level of anaesthesia required.
- **Adjust vaporizer % on *clinical signs (all animals vary)*, but *keep flows as recommended below*.**
- **For quick adjustments in vapour %, empty bag, refill** with **new % at high flows & reduce when bag full.**

Weight Kg	Induction fresh gas flow *pre-fill* system with O_2 + vapour (set at twice % for maintenance)	Maintenance flow premed with analgesic healthy animal	Maintenance flow No analgesia in premed or compromised animal
0-3 kg *	500 ml/min	300 ml/min (minimum)	500 ml/min
3-4	500	300	500
4-5	500	350	500
5-6	600	400	600
6-7	700	500	700
* For birds & very small animals below 1kg, connect ADE system to a conical mask or induction box.			

Basic Recommendations: Animals over 7 kg up to 100kg

Circuit factor = 0.1 – 0.3: FGF 10 - 30 ml/kg/min. Again the ADE-circle really is highly efficient!

- **If using nitrous oxide, use a 50/50 O_2/N_2O mixture. Set *minimum* flow at 300ml each = 600 ml/min**
- **Attach canister** – change soda lime if exhausted
- **use 1 litre reservoir bag (2 litre over 50kg)**
- ***Leak test* is essential before every anaesthetic!**
- **Exhaust valve: fully open after leak test.**
- **Connect to patient – check ET tube doesn't leak: Fill the system for 2 minutes at 3 l/min with oxygen and vapour to wash out the 3 litres of non-anaesthetic gases in the bag and canister. *This considerably speeds up induction*.**
- **Continue with induction flows and reduce to maintenance levels** on approaching level of anaesthesia required.
- **Adjust vaporizer % on *clinical signs* (***heavy & fat animals need more***), but *keep flows as recommended*.**
- **For quick adjustments in vapour %, empty bag, refill with new % at high flows & reduce when bag full.**

Weight Kg	Induction flow: 30 ml/kg/min. Set vapour % at ± 1.5 times maintenance % to ensure the system is filled with O_2 + vapour	Maintenance flow healthy animal Reduce flow to 10 ml/kg/min Adjust vapour % as required	Maintenance flow compromised animal use higher flows at 30 ml/kg/min
7-15 kg	500 ml/min	300 ml/min (minimum)	500 ml/min
15-20	600	300	600
20-30	900	300	900
30-40	1200	400	1200
40-50	1500	500	1500
50-60	1800	600	1800
60-70	2100	700	2100
70-80	2400	800	2400
80-90	2700	900	2700
90-100	3000	1000	3000
Up to 250 kg	30 ml/kg/min – use 22mm tubing	Reduce to 10 ml/kg/min	use 3 litre reservoir bag